REMARKABLE INVENTIONS,

BY DOUGLAS BLY, M. D.

An Anatomical Leg.

WITH LATERAL OR SIDE MOTION AT THE ANKLE, LIKE THE NATURAL ONE.

ARMS WITH NEW SHOULDER MOTION.

OFFICE AND MANUFACTORY:

No. 152 West Fourth Street,

CINCINNATI, OHIO.

ARMS AND LEGS,

MADE ON

Government and Private Account.

ADDRESS ALL COMMUNICATIONS TO

CHAS. M. EVANS,

MANUFACTURER.

See 7th, 8th, 9th, 11th and 12th Pages in Particular.

EVENING EXPRESS PRINTING HOUSE, ROCHESTER, N Y.

[1870?]

See the 7th, 8th, 9th, 11th and 12th Pages in Particular.

CONTENTS.

PAGE.

Arms,..... 1
Description of the Anatomical Ball and Socket Jointed Artificial Leg,..... 3
Description of Dr. Bly's Improved Patent Leg which has no lateral ankle motion, 6
Description of Dr. Bly's Second Leg which has no lateral ankle motion,..... 7
Surgeon General's Order, showing the comparative merits of Artificial Legs,..... 9
Report of the Virginia State Board,..... 10
Report of Georgia State Board of eminent Surgeons,..... 11
Report of South Carolina State Board of Surgeons,..... 12
Premium over Palmer Leg,..... 13
Letters from Surgeons,..... 14
Letters from a Surgeon who has worn the Palmer Leg two years, and one of Dr. Bly's two years,..... 17
Letters from Patients,..... 18
Palmer's Leg remodeled and improved,..... 27, 31, 34
Double Amputations..... 19, 30, 32 and 35
Endorsed by the New York Academy of Medicine, also by the Ohio State Medical Society,..... 36
Amputation—points of Election, as indicated by the improvements in Artificial Legs,..... 37
Special instructions to those wanting limbs—how to proceed, &c.,..... 40

Price List of Dr. Bly's Artificial Limbs.

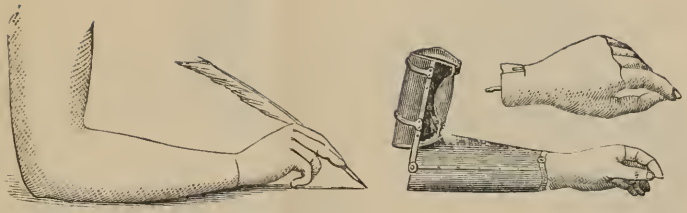
Soldiers furnished with Legs and Arms on Government account.

Dr. Bly's Patent Leg with lateral ankle motion,.....$150 00 to $160 00
Dr. Bly's Improved Patent Leg which has no lateral ankle motion,.....100 00
Dr. Bly s Second Patent Leg which has no lateral ankle motion.....75 00

Dr. Bly's Patent lateral motion ankle joints applied to all kinds of legs now in use, varying a little in different kinds, and warranted for five years, same as in legs of his own make, on very reasonable terms.

Dr. Bly's Patent lacer fastening for amputation below the knee, put on all kinds of legs in use,.....$5 00
Dr. Bly's Patent Arms for amputation above the elbow, with new patent shoulder motion.....$100 00 to 125 00
Dr. Bly's Patent Arms for amputation below the elbow, with full finger motion,..... $85 00 to 100 00
Dr. Bly's Patent Arms for amputation below the elbow, with partial finger motion,.....$50 00 to 75 00

The above prices hold good for the Northern States, but in the South and South-west the prices are a little higher, and vary according to the expense of carrying on business in any particular locality.



ARTIFICIAL ARMS.

SOLDIERS FURNISHED ON GOVERNMENT ACCOUNT.

I have examined all the Artificial Arms of any notoriety in the United States, and, after a careful investigation, I have selected two of the best Patents, and purchased the right to sell them. To these, I have added my own improvements: consequently, I can now offer the finest specimens of arms in the country. One of these arms has a shoulder motion, which imparts a life-like motion to the hand, even when amputated within three inches of the shoulder-joint. By the simple natural motions of the stump, the forearm and hand are moved, guided and controlled, with such ease and grace as to give quite the appearance of life. The other is remarkable for the grasping power of the hand, with the ability to grasp and let go of things with a certainty, and a finger motion that is beautiful in the extreme.

The motions of these arms and fingers are positive and certain. They are produced by means of levers which act with certainty. No catgut cords or violin strings are used. Most of the arms patented depend upon catgut cords to operate the fingers, and the cords soon stretch, so that the fingers only partially open, or only partially close; consequently the arms soon become almost useless. Yet many parties advertise such arms in the most flaming manner, and represent that persons can play the violin with great perfection, write as well or nearly as well as with their natural hands, and do all kinds of labor, &c. I do not want any one to buy an arm of me and be so terribly disappointed as they must be with those. Even these are not equal to many of the flaming advertisements I have seen, although they will do much more than any others.

Since I commenced the manufacture of artificial legs, I have traveled through the States generally, and have attended many fairs, and medical conventions, where artificial legs and arms were exhibited. I have also attended all the Government examinations; consequently, I have had opportunities to see a great variety of arms, when new, when in use, and after they had been worn more or less, and from them all I have selected the two patents, which give the best satisfaction. These are operated by levers which make their motion accurate and sure, which is of great importance. A hand that would only partly open or partly close, or would sometimes reach part way and then fall, in a lifeless manner, would be of but little real service. If a person should put his hand up to his head, and in attempting to let it down again, the hand should fall heavily, it would be very embarrassing, especially in company; hence the importance of obtaining one of my best arms. The hands of both these arms can be easily detached and a hook substituted, which is convenient and useful for many purposes. In some kinds of labor a hook can be used and the hand laid aside and kept from being soiled or unnecessarily worn.

Those wanting arms will find it to their advantage to take one of my arms that I have just described, and allow me to select the one which is best adapted in each particular case.

Address DOUGLAS BLY, M.D., at the nearest office.

Fig. 1

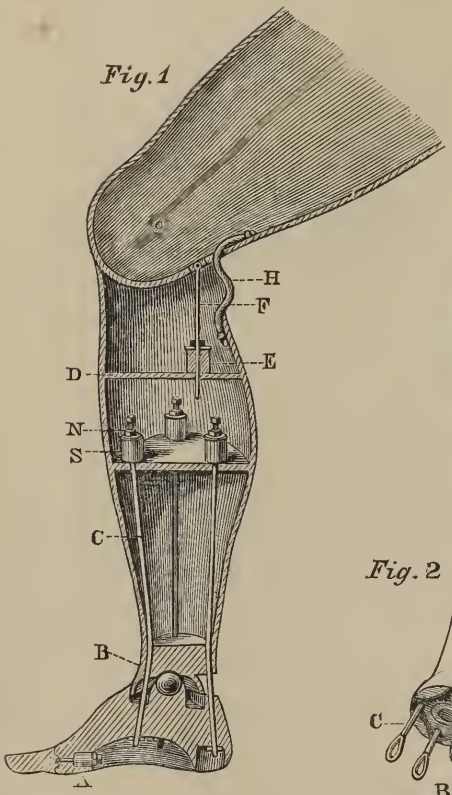


Fig. 6

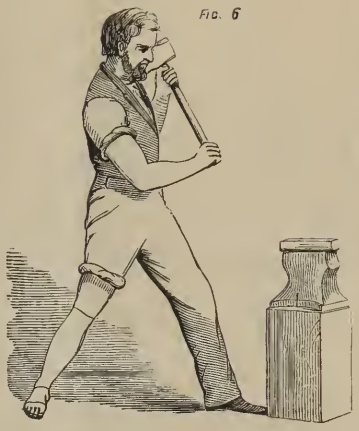


Fig. 2

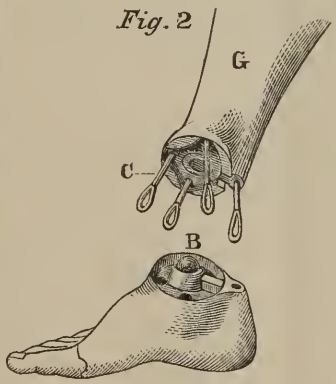


Fig. 4

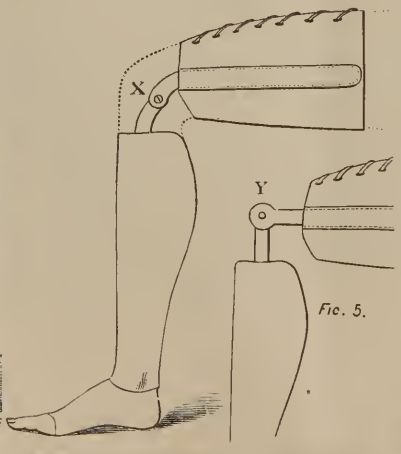
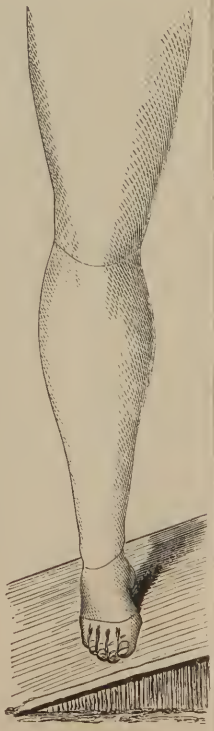


Fig. 5.



DESCRIPTION OF

DR. BLY'S ANATOMICAL LEG

Fig. 1. a sectional elevation. The ankle joint is formed by a ball, B, of polished glass, plying in a socket of vulcanite of india-rubber,which is a joint that *admits of every motion that the natural ankle does*, WITHOUT AN EXCEPTION, and is the first joint ever invented which *never* requires oiling.

S, three of the four India Rubber springs, which take the place of the muscles of the natural leg.

C, the tendons which pass through the springs with screw-heads on the upper ends. Only three are shown in Fig. 1, but the lower ends of all four are shown in Fig. 2.

N, the nuts by which the tension of the tendons and springs are regulated to suit the wearer.

E, the spring which operates the knee joint.

Fig. 4, shows the curved joints (X) on either side of the knee, for amputations below the knee. The curve corresponds with the natural knee, and allows the pants to set smoothly.

Fig. 5, shows the joints for the same purpose, as constructed by other makers. (See description, p. 5.)

Fig. 6, represents a mechanic wearing one of these legs. The lateral motion at the ankle enables him to plant the foot flat on the floor, and at the same time spread the feet to brace the body, when about to strike a powerful blow. The same action is often required in all kinds of labor.

Fig. 7, represents the ankle joint flexed diagonally, as is often the case when one side of the foot happens to be placed on a small stone, or other obstacle.

Fig. 8, represents a front view, showing its exquisite beauty; also the action of the ankle joint when walking on the side of a hill, or on an inclined plane, the foot accommodating itself to the surface, like the natural foot.

The ankle joint in this leg is made *without* iron or any kind of metal, therefore the leg is EXTREMELY LIGHT—MUCH LIGHTER THAN ANY OTHER. The liability of metallic joints to rattle and make a noise, after the leg has been worn a short time, is well known, and the annoyance which it causes the wearer at every step is also well known. Now, as there is no metal about this joint, there is *no noise*. The joint is formed by a BALL OF POLISHED GLASS, *plying in a socket of vulcanite of rubber*. (See Fig. 2.)

This joint accomplishes the great object which all Artificial Leg makers have hitherto sought for in vain, viz: IT ADMITS OF MOTION IN ALL DIRECTIONS LIKE THE NATURAL ANKLE JOINT, and thereby allows the ARTIFICIAL FOOT to accommodate itself to the varied inequalities of the surface, THE SAME AS THE NATURAL FOOT. (See Figs. 7 and 8.) This enables those who wear it to walk so well, that it is not even suspected, much less detected.

Furthermore, this is a joint which requires NO OIL, a fact of no little importance, as those will testify who have worn legs with metallic joints, and been obliged to carry pocket oil cans.

In the places corresponding to those occupied by the muscles of the natural leg, are placed india rubber springs with tendons, (see Figs. 1 and 2,)

extending downward in place of the natural tendons; and it is really interesting to see how well the action of the rubber springs imitate those of the natural muscles. These rubber springs or artificial muscles, together with the ball and socket joint, produce EVERY MOTION *of the* NATURAL LEG, WITHOUT *an exception.*

The springs are made of rail-road car-spring rubber, and *used by* COMPRESSION, therefore it is *not* possible to overtax or break them; I repeat, *it is* NOT *possible to break them.* This will be appreciated by those who have worn legs with metallic springs; especially by those who have worn the Palmer leg.

The power and action of all the springs in this leg, are regulated simply by turning a nut, so that the WEARER MAY ADJUST THEM TO SUIT HIS OWN PECULIAR GAIT, with great nicety.

Instead of the mechanical motions given a limb by metallic springs, *the rubber springs impart easy, uniform motions* to the limb, *like those of the natural muscles*, which give it, when in use, a REMARKABLE LIFE-LIKE APPEARANCE.

In walking, when the weight of the body rests on the ball of the foot, the spring representing the gastrocnemius and soleus muscles is firmly compressed, and when the weight of the body is thrown forward on to the other foot, the spring rises and carries the foot forward to its place, with very little effort of the wearer. By the action of this spring, lifting the foot in a great measure and carrying it forward, the wearer is materially relieved from the greatest burden of artificial legs, viz.: weight.

In ordinary walking, with the toes turned outward, the foot, *like the natural one*, is fixed diagonally, or in the line of motion, *which makes a graceful step.* Artificial legs made heretofore, roll the foot to compensate for this diagonal flexion,—hence the uneven gait so often seen.

If the foot is turned out sidewise to brace the body, or to work at a bench, as in many kinds of mechanical labor, the ankle joint flexes *laterally* and the foot remains flat on the ground, and gives a *firm base of support*, which is of *great importance* in all kinds of labor. (See Fig. 6.)

Furthermore, when walking, if one side of the foot happens to be placed on a stone or elevation, or into a hole, the *mobility of the ankle joint allows the foot to yield just* ENOUGH *to accommodate itself to the inequality, and thereby* PREVENT *straining the stump, or stumbling or falling*, which necessarily takes place more or less with all legs which do not admit of lateral and diagonal motion at the ankle joint. (See Figs. 7 and 8.)

The knee joint is formed by an axial bolt plying in two segments of a circle, one of which is adjustable, to prevent looseness and noise.

The spring (E, Fig. 1) operates the knee-joint, and, assisted by the one just referred to, carries the foot forward at each step, with any degree of motion desired to suit the peculiar gait of the wearer; it being india-rubber, and adjustable like the others.

The motion of the knee-joint is limited and controlled by the cord (H,) which takes the place of the crucial ligaments of the natural knee-joint; consequently there is no unpleasant or painful jar, caused by the solid parts coming in contact, to limit the motion, as in the old-fashioned legs. Besides, another old idea which is a marked feature in the Palmer leg, namely, the bushing the joints with buckskin, is completely done away with; consequently the annoyance and expense of sending the leg to the maker every

now and then, to have the joints bushed, to keep them from wearing loose and rattling, is entirely avoided.

By laying a femur (thigh bone) on paper and drawing a line on each side, I obtained the exact curve of the lower end of the bone. Then I gave the jointed extremities of the straps (X) the *same curve*, consequently they work in harmony with the natural joint, and conform to the contour of the knee, which allows the pants to remain smooth and handsome when sitting with the knee flexed. (See Fig. 4.)

The square or angular straps (Y) seen in the Palmer and other old-fashioned legs, (represented in Fig. 5,) make a very bad appearance, when the wearer is sitting, and are ugly, uncouth things to say the least. They demonstrate what I have already stated, namely, *the necessity of taking* NATURE for a *guide* in *all* things pertaining to *Artificial Legs.*

Formerly the manufacture of artificial legs has been left entirely to common mechanics, and THOSE WHO HAVE UNDERGONE AMPUTATION, but who have little or no knowledge of anatomy; consequently the CONSTRUCTION of artificial legs HAS BEEN MERELY MECHANICAL, AND NOT ANATOMICAL.

They have imitated *some* of the motions of the natural leg quite well, *but others not at all.* Indeed it could hardly be expected that any one but an anatomist should be able to model a leg so close to nature, as to imitate all the varied motions of the natural leg.

To obtain an Artificial Leg, with ALL *the varied motions of the* NATURAL ONE, I have devoted much time, and by *frequent dissections, have accomplished the object.* I saw that nature used no bolts or pins to bolt or fasten the foot to the leg, but that she nicely rounded the bones at the joint, and held them in place by means of ligaments, tendons and muscles. Then, taking nature for my guide, I dispensed with all the hinges, pins, bolts, and cumbrous metallic joints generally used in artificial legs, and simply rounded and shaped the joint like the bones of the natural leg, and supplied the place of the natural muscles by means of india-rubber springs, and the tendons by artificial ones, and the LEG WAS A COMPLETE COPY OF NATURE. Like everything which takes nature for its guide, it is very simple and not liable to get out of order.

In form the limb is always made to correspond exactly with the natural one, then it is covered with a delicate skin, which is enameled with the most delicate tinted flesh-colored enamel, shaded to suit each particular case! and the whole is so natural in appearance, and so life-like in all its motions, that it is often mistaken for a natural limb.

It is adapted to all amputations either above or below the knee, or through the knee and ankle joint, also to flexed or bent knees.

Since it is found that this leg meets with such success, some of the makers of other legs advertise that their patents do not prevent them from using any kind of spring or material they choose. They would like to have people think that they could make a leg like mine. But do not be hoodwinked; *their* patents do not prevent them, but *mine does.* So let it be remembered that each and every device herein described, is patented to me in the United States, England and France; and that whoever manufactures one of them within these countries, does it at his peril; also, that whoever uses one, incurs the same risk, unless he purchases it of me.

DOUGLAS BLY, M. D.,
ANATOMIST AND SURGEON.

DR. BLY'S IMPROVED LEG WHICH HAS NO LATERAL MOTION.

THIS LEG WITH ITS IMPROVEMENTS WILL HEREAFTER BE FURNISHED TO SOLDIERS ON GOVERNMENT ORDERS.

This Leg was constructed by the earnest request of Surgeons who wanted, for their patients, a more durable leg than the Palmer leg, without increasing the cost. As it has no lateral or side motion, it is not equal to my Anatomical Leg, still it is superior to every other, because it has the same India rubber springs that my Anatomical Leg has, which cannot be broken, and which give an easy, graceful motion, like that of the natural muscles, instead of the quick, snapping action of metallic springs. Suppose a man has a leg with metallic springs just strong enough to bear his weight and walk properly, should lift a box, bag, or weight of any kind, nearly equal to his own weight, what would be the effect on his spring thus overtaxed? Ask any laboring man who has worn a Palmer Leg. India rubber springs, in such a case, cannot be broken, because they are used by compression, like railroad car springs. India rubber springs which have now been in use five years, show no wear or loss in any way perceptible. If there is any loss, it is so little that five years use does not show it.

The ankle joint in this Leg is a unique invention. It never wears so as to get loose and rattle, or require bushing with buckskin or anything else. This joint, like my ball and socket joint, is self-cleaning, which is entirely new; an important feature, which is not possessed by any of the old fashioned legs such as the Anglesea, or Palmer leg, or any heretofore made. If any dust, dirt, sand or grit of any kind, gets into the ankle joint of one of those old-fashioned legs, it remains, and grinds out the joint until it becomes loose and rattling, and sometimes entirely destroyed.

Among the old legs left with me by those coming after new ones, is an old Palmer leg, the joint of which is entirely destroyed, and the foot cut in two by this process, so that the bolt which forms the joint and supports the leg, now rests on the sole of the boot, and the heel lies loose in the heel of the boot, entirely separated from the foot, which continues to fill the boot in front. I have now given the same durability to the ankle joint without lateral motion, as I previously have to the one which has *all* the motions of the natural ankle. The knee-joint is just the same as that in the "Ball and Socket jointed leg" already described.

The idea of a self-cleaning joint, which gives such great durability, was taken from my lateral ankle motion leg, also the India-rubber springs, and the knee-joint as arranged to take up all looseness or lost motion, &c., &c.

In making so many improvements, and so perfecting my leg *with lateral motion at the ankle*, many valuable improvements have been discovered for my leg without lateral motion, greatly improving it, so it now stands superior to any other leg made in America without lateral motion. For conclusive evidence of the fact see Reports of Scientific Examining Boards of different States. (Pages 9, 10 and 11.)

In must take a brazen face and a good deal of selfishness for different parties to suppress those reports, and advertise their limbs as preferable to mine. All the other legs made throughout the country are made on the same general principle, simply a bolt through the foot and knee, producing the common forward and backward motion; metallic springs, metallic joints, or joints bushed with buckskin or leather, nearly all flapping against the floor at every step, making a very unpleasant noise, and giving everybody notice that there is an artificial leg coming. Many of them are put forth as new patents, great improvements, and so forth, to catch with the idea of something new; but they are only a rehashing of the old Anglesea and Palmer legs, which are twelve or fifteen years behind the times.

DR. BLY'S SECOND LEG WHICH HAS NO LATERAL MOTION.

Strength, durability and price are the great recommendations of this leg.

This leg is made after a new patent issued to me since the war.

This patent has been the source of much study, and was only obtained after a long experience in the manufacture of artificial limbs. The main object in constructing this leg was to produce a more durable leg than had ever been done before, at a moderate price.

The instep spring is taken from my best leg, and being India rubber, used by compression, cannot be broken. It is regulated by a screw, and prevents the foot from flapping the floor and making a disagreeable noise at every step, like the Palmer leg and others constructed with metalic springs.

The toe spring is also of India rubber and used by compression. The ankle joint is provided with a screw to tighten it and keep it from rattling or making a nose.

THE NEW LAW OF 1870.

INFORMATION FOR MUTILATED OFFICERS AND SOLDIERS.

June 17th and 30th, 1870, Congress passed acts to furnish artificial limbs every five years to soldiers and seamen, and officers not above the rank of captain.

Upon applications for limbs, orders will be given by the Surgeon General, upon any manufacturer selected, who shall have filed a bond in the sum of Five Thousand Dollars, with two sureties, to furnish good and satisfactory limbs, without extra charge to the soldier, and make good for five years all defects of material or workmanship, without additional charge, subject in all cases to the inspection of such persons as the Surgeon General may designate.

Orders for transportation will also be furnished upon a written request addressed to the Surgeon General.

The limb or apparatus will be delivered in the presence of the Board of Pension Examining Surgeons at the place of fitting, the President of which will judge whether it is satisfactory.

Each officer and soldier has his choice, either to receive a limb or its value in money. All who want limbs will gain by taking a limb from the Government, because the Government will give transportation to and from the manufactory, which, in many cases, is equal to one-quarter or one-half the value of the limb. And besides that, the Government requires each manufacturer to warrant his work and material used, and if not good to repair the same without charge. The soldier who draws his money and buys a limb for himself, loses all these advantages. Many manufacturers of limbs will advise soldiers to draw the money, and then buy of them, so they will not be obliged to warrant their limbs to the Government, or give a bond for the same; and so they can ask any exorbitant price they choose, without being limited by the Government.

I have given the Government a bond of $5000, with two sureties, that will warrant my limbs, and repair the same without charge, as the Government directs.

I furnish legs and arms for all kinds of amputations, on Government orders, free of charge to soldiers.

And by special arrangement with the Government, for the benefit of soldiers who wish to procure a superior leg, I furnish my superior Ball and Socket-jointed Leg, with lateral motion at the ankle, for the Government order and forty-five dollars. This arrangement enables soldiers, by paying forty-five dollars, to get the most perfect leg ever yet invented—the only leg with all the motions at the ankle of the natural one.

This low price holds good to soldiers with Government orders only—one hundred and fifty dollars being the lowest price for which it is ever sold, except upon such orders.

I furnish blanks, procure Government orders, and obtain transportation, without charge, for those who send me their names and address.

I furnish Legs and Arms under the new law, at either of my offices that the patient may select.

NEW PATENT LACER FASTENING.

I also have a new patent fastening for fastening the leather lacer on the thigh for amputations below the knee, instead of lacing with eyelets as heretofore This fastening does not require more than one-quarter of one minute, and can be fastened as quick in the night as day.

I put this fastening on my universal ankle motion leg without extra charge; on my leg without universal ankle motion, and all others, old or new, of all patents and kinds, for five dollars each.

NEW PATENT INNER LEATHER SOCKET.

I have also invented a very ingeniously arranged inner leather socket for tender stumps, which will be applied in all cases where necessary. This too will be put in my universal ankle motion leg, without charge; and in my leg without universal ankle motion for ten dollars, and all other kinds for fifteen dollars each.

My universal ankle motion leg shall contain, without extra charge, every improvement that I can invent or purchase. It shall be the ne plus ultra of human inventions.

UNIVERSAL ANKLE-MOTION JOINT IMPROVED AND WARRANTED FIVE YEARS FOR $5.

I have reeently made some very valuable improvements, whieh make my ball and soeket lateral motion ankle joint more desirable than ever before, and by far the most durable joint ever made.

This joint, and the cords and springs operating the same, I now warrant for five years, and will keep them in repair that time for five dollars, and will give a warranty on delivery of the leg. Thus warranted, this leg is mueh eheaper at the end of five years than any other leg made

WARRANTY.

I hereby warrant the Ankle Joint, and the Cords and Springs connecting the same, in the Artificial Leg sold ——— ———, for five years, as follows:

In case the Ankle Joint, or any of the Cords and Springs connecting and operating the same, shall wear out, break, or fail in any way whatever, I will repair and keep the same in good working order, without charge, for five years from the above date; provided the leg shall be well used, properly cared for, and not abused; and that in case the leg shall get out of repair, it shall not be used in that condition to the injury of the leg; and that I shall be notified of its condition immediately, and if necessary, the leg shall be sent to me for repairs.

LATERAL ANKLE-MOTION APPLIED TO ALL KINDS OF LEGS.

I appply my universal ankle-motion to the Anglesea, Palmer, and other legs, throughout the country, on reasonable terms, and warrant them for five years.

All kinds of repairs neatly done on all kinds of legs, on reasonable terms, and short notice.

IMPORTANT TO ALL WHO USE ARTIFICIAL LEGS.

There are some parties who, apparently, have been trying to make people think that they are the only parties authorized by Government to furnish limbs for soldiers on Government account, and that it was by their special influence that Government furnishes limbs at all.

They publish themselves as specially commissioned by the Surgeon General, and their limbs as specially recommended by the Board of Examining Surgeons, but they are very careful not to publish the report. Why do they suppress it? Soldiers, read the official report and order from the Surgeon General on next page, then ask yourselves how much confidence you have in such parties.

After the same manner one of them devotes a whole page in one of his pamphlets to Major-General Sickles, and claims great credit for his leg, because he has furnished it to officers of high rank, when it is a well known fact to all who are acquainted with General Sickles, that he prefers to use crutches in preference to his Palmer leg, and may be seen on his crutches any day. What a sad his-

tory after receiving a recommendation from the General. Like many others, when the General first received the leg he was full of expectations. What a disappointment. Soldiers, do you believe your General's name is thus used for your benefit, or the benefit of the party who wishes to sell that kind of legs. By referring to the Surgeon General's Order, you will see that that leg is third on the list, and only worth a little more than half what mine is. You will also see others still lower on the list, each claiming to be *specially* selected.

None of these parties have ever published the report, nor the report of the Examining Boards of the States of Virginia, South Carolina, or Georgia, which will be found on the succeeding pages. They prefer not to publish them, because such facts would expose their pretensions to superiority. You will find valuable information in those reports.

LEGS FURNISHED TO SOLDIERS ON GOVERNMENT ACCOUNT.

$120 a Piece Awarded for Dr. BLY'S Anatomical Legs, when $75 a Piece was the highest price awarded to any other leg in the United States. See following Order:

THE SURGEON GENERAL'S ORDER ON ARTIFICIAL LEGS.

SURGEON GENERAL'S OFFICE,
WASHINGTON, D. C., May 13, 1865.

SIR:—In accordance with the recommendation of a Board of Medical Officers recently convened in the city of New York, the manufacturers indicated in the subjoined list, have been authorized to furnish to mutilated soldiers Apparatus and Artificial Limbs of the kind designated, viz:

ARTIFICIAL LEGS.

	MAKER.	PRICE.	
First best.....	Dr. Douglas Bly....	$120.00	..His "Universal Ankle Joint Motion.
Second "	Dr. Douglas Bly....	75.00	..His without "Universal Ankle Motion.
Third "	Wm. Selpho & Sons	75.00	
Fourth "	B F. Palmer.....	75.00	
Fifth "	Dr. E. D. Hudson...	75.00	
Sixth "	Salem Leg Co.....	75.00	
Seventh "	Jewett Leg Co.....	75.00	
Eighth "	R. Clement.....	75.00	
Ninth "	A. A. Marks.....	65.00	

The relative value of the models, in the opinion of the board, is shown by the order in which the makers are mentioned. No order shall be given to manufacturers who are not included in the preceding list.

Should soldiers desire to procure the more expensive legs, the maximum price ($75) for each, will be allowed in part payment.

The respective manufacturers have been directed to supply Medical Directors from whom orders shall be received, with accurate instructions for making the requisite measurements. By Order of the Surgeon General:

C. H. CRANE, *Surgeon U. S. Army.*

The price awarded by Government is referred to here, to show the comparative merits of artificial legs. That is a wholesale price, and is much less than the retail price, consequently the price in individual cases will be higher. See price list on first page.

That Dr. Bly's Anatomical Leg. with "Universal Ankle-Joint Motion," is the best Leg made, has now been settled by a Board of eminent Surgeons, convened by order of the Surgeon General. The board decided that Dr. Bly's Leg is worth as much again as any other Leg made, lacking thirty dollars, as will be seen by referring to the above order of the Surgeon General. It must be a brazen-faced man who, in the face of these facts, would deceive a maimed soldier by representing that he makes as good a leg as Dr. Bly.

Office Virginia Board on Artificial Limbs.

RICHMOND, VA., March 7th, 1867.

DR. DOUGLAS BLY:

Dear Sir—The Legislature of Virginia, passed an Act at its last Session appropriating funds for furnishing the maimed and disabled men, residents of the Commonwealth of Virginia, who lost limbs in the late war, with artificial limbs, and constituted the undersigned a Board to execute the provisions of the Act.

The Board sent circulars to all Manufacturers of Artificial Limbs in the United States, so far as known, inviting parties to present specimens and proposals.

The following named parties responded to the call, viz.:

John H. Wells & Co.,
Richard Clement,
Dr. E. D. Hudson,
Dr. A. T. Watson,
Hanger & Co.,
A. A. Marks,
Marvin Lincoln,
Dr. Douglas Bly,
Monroe & Gardiner,
Wm. Selpho & Son,
John Condell,
De Forrest Douglas,
Jewett Leg Company,
Kolbe & Byrd,
B. F. Palmer,
J. W. Weston,
H. A. Gildea,
George Leacock,

After a careful and thorough investigation, the Board could not hesitate to give a unanimous verdict in favor of your limbs as being the best and most satisfactory in all their elements and appointments of lightness, elegance, strength and durability

First, of Legs—Your "Anatomical Patent Leg," with lateral ankle motion.

Second—Your "Patent Leg," without lateral ankle motion.

First, of Arms—Your "Kœller Arm."

The funds placed at the disposal of the Board not being sufficient to supply your Anatomical Leg (on account of its higher price), the Board has determined to supply the State of Virginia with your Army and Navy Leg, and Kœller Arm.

It is a great satisfaction to the Board, and we believe it will be to all parties concerned, to know that this conclusion was arrived at, not hastily, but after the most careful and painstaking examination and enquiry; and since this conclusion was so carefully considered, it must be a gratification to you, and a testimonial to your skill and ingenuity, that amid so much competition, among a great variety of models of such great excellence, the Board have unanimously, and without hesitation, adopted yours as the best.

It remains only with yourself, to realize for our unfortunates the confident expectations which the Board have reposed in you, with the strongest convictions that these expectations will be fulfilled, and that they will find you actively co-operating with them in securing for our disabled, all the good intentions and beneficent purposes of the Legislature.

You are hereby notified to appear before the Board at your earliest convenience and enter into contract to supply the limbs above selected.

Respectfully,

F. H. PIERPONT,
Governor, and President of the Board.
WM. F. TAYLOR,
Auditor, and Treasurer of the Board.
W. B. WATKINS, M. D.,
Surgeon of the Board.

REPORT OF GEORGIA BOARD OF SURGEONS.

His Excellency Charles J. Jenkins, Governor of Georgia:

AUGUSTA, June 29th, 1866.

Sir: We, the undersigned, a Committee appointed by your Excellency on the 19th April last, in compliance with an Act, entitled "An Act for the relief of maimed indigent soldiers and officers, citizens of this State, who belonged to military organizations of this State in the State or Confederate States Armies," beg leave to make the following report:

After a careful examination of the specimens presented to us by

THE AMERICAN LEG CO.,
THE SOUTHERN ARM AND LEG CO.,
WM. SELPHO & SON,
DOUGLAS BLY, M. D.,
BYRD & KOLBE,
JNO. H. WELLS & CO.,
A. A. MARKS,
E. D. HUDSON, M. D.,
JEWETT LEG CO.,
J. B. HOGGSON,
MONROE & GARDNER,

we have determined to classify them according to our estimate of their relative merit, as follows:

LEGS: [ANKLE MOTION.

No. 1, DR. BLY'S ANATOMICAL PATENT LEG, WITH LATERAL
" 2, DR. BLY'S PATENT LEG, WITHOUT LATERAL ANKLE MOTION.
" " SELPHO'S LEG,
" " JEWETT'S LEG,
" 3, HUDSON'S LEG,
" " AMERICAN LEG CO.'S LEG.
" " SOUTHERN LEG CO.'S LEG,
" " HOGGSON'S LEG,
" " BYRD & KOLBE'S LEG,
" " MONROE & GARDNER'S LEG,
" 4, MARK'S LEG,
" " WELLS' LEG.

ARMS:

No. 1, DR. BLY'S ARM, KOELLER PATENT,
" 2, DR. BLY'S ARM, KOLBE PATENT,
" " THE SOUTHERN LEG AND ARM CO.'S ARM,
" 4, SELPHO'S ARM,
" " MONROE & GARDNER'S ARM.

L. A. DUGAS, M. D.
H. H. STEINER, M D.,
L. D. FORD, M. D.

EXTRACT FROM THE MESSAGE OF THE GOVERNOR OF GEORGIA.

EXECUTIVE DEPARTMENT,
MILLEDGEVILLE, GA., Nov. 1st, 1866.

Senators and Representatives:

I appointed as a Board of Surgeons to examine various patents of Artificial Limbs which were put in competition for the work ordered by the General Assembly, Drs. L. A. Dugas, H. H Steiner, and L. D. Ford, of Augusta, having personal knowledge of their professional attainments and skill.

Considering together the proposals, and the report of the Surgeons upon the relative merits of the limbs submitted to their examination, it was very clearly made my duty to accept the offer of Dr. Douglas Bly. To him, therefore, the contract was awarded, and it has been duly executed.

CHARLES J. JENKINS.

REPORT OF SOUTH CAROLINA BOARD OF SURGEONS.

To His Excellency James L. Orr, Governor of South Carolina :

SIR : In compliance with your request we have examined with great care the Artificial Limbs submitted to our inspection by Messrs. Douglas Bly, Selpho & Son, Byrd & Kolbe, and John E. Gardner, and beg leave to present the following report :

Were it consistent with the duty assigned us, we would take pleasure in bestowing commendation upon each of the several specimens brought to our notice, as combining in a high degree the requisites of an artificial limb ; but as the office of the commission is to decide only upon relative merits of the respective limbs, we cannot withhold the award of superior excellence from Dr. Bly.

His "Anatomical Patent Leg, with Lateral Ankle Motion," possesses in an eminent degree, the qualities of elegance, strength and simplicity of structure. In extent of motion, and in all its elements and appointments, it is admirably suited to the purposes of ease and graceful locomotion.

His "Patent Leg, without Lateral Ankle Motion," though deficient in one of the distinguishing excellencies of the former, making no provision for *lateral* motion at the ankle joint, is nevertheless, in the opinion of the Board, entitled to rank before its competitors in the respect above referred to, and as such is cordially recommended by them to your Excellency's favorable consideration.

A. N. TALLEY, M. D.,
ROBERT W. GIBBES, M. D.,
B. W. TAYLOR, M. D.

COLUMBIA, S. C., March 26, 1867.

GOVERNOR ORR'S LETTER.

EXECUTIVE DEPARTMENT S. C.,
COLUMBIA, June 25th, 1868.

DR. DOUGLAS BLY, Rochester, N. Y. :

Dear Sir—I have this day drawn a draft on the Treasurer of this State to pay your last bill for artificial legs furnished citizens of this State under your contract with me.

The contract has now been fulfilled, and it is due to you that I should say it has been executed with scrupulous fidelity. The artificial legs manufactured by you have given universal satisfaction to those supplied. From their concurrent testimony I am satisfied that the work has been executed faithfully and skillfully, and that your models are superior to all others in use.

Very respectfully yours, &c.,
JAMES L. ORR, Gov. of S. C

PREMIUM.

New inventions continue to mark the progress of American improvement. In 1851, the Palmer Leg took the premium at the World's Fair in London, and now *this* Leg takes the premium from the Palmer Leg, and stands unrivalled. See the following report of the New York State Fair:

DR. D. BLY, ROCHESTER.

"Artificial Leg. ☞ AWARD, DIPLOMA and LARGE MEDAL.

"This 'Artificial Leg,' presented to your Committee for inspection, was brought in direct competition with 'Palmer's Artificial Leg,' before noticed in this Report; we were, therefore, necessarily required to decide relative to their *comparative* merits—and, after a full investigation of their mechanical construction, materials used, and the adaptation to the accomplishment of the object of their creation, found no difficulty in arriving at a conclusion satisfactory to ourselves; and which, we are confident, will be adopted or approved by our unfortunate fellow-citizens who are compelled to supply the want of *natural* by *Artificial* Legs. We are *unanimous* in the opinion that the Leg presented by DR. BLY is the *best*, and that it possesses advantages over the 'Palmer Leg' very desirable to the user, and creditable to its maker. These are:—1st. Its *weight* is less. 2d. No *metallic springs* are used in its construction, demanding frequent repairs. 3d. But *one* metallic bolt (that at the knee joint) is used. 4th. The ankle joint is so constructed as to admit of a lateral, rotary, or side motion of the foot (in exact imitation of that in the natural ankle), thereby enabling the wearer to walk upon uneven surfaces, or step upon small stones, or other light obstructions, with less liability to stumble or fall—lighten the tax upon his *caution* as to *where* and *how* he steps to secure safety, and, in an equal ratio, diminish the physical effort necessary to its use.

"This Leg combines the desirable qualities found in Palmer's, with the *improvements* above enumerated, and is a nearer approach, in its anatomical structure and motions, when in use, to its 'model,' the natural Leg.

"We award the First Prize to Dr. Bly, for his *improvements*, and the evidence of *progress* in the mechanic arts, found in the construction of his 'Artificial Leg.'"

I certify that the foregoing is a true abstract from the original Report made by Department No. 72, of the New York State Fair, held at Syracuse. A. P. SIGOURNEY,

Chairman of Committee.

The first prize was also awarded this Leg at the Ohio State Fair at Dayton, Indiana State Fair at Indianapolis, Missouri State Fair at St. Louis, Illinois State Fair at Chicago and Springfield, the United States Fair at Cincinnati, and many other Fairs and Institutes. It has been awarded the first prize every time it has been exhibited. The prizes taken by other legs were taken before this Leg was invented; or in places where this Leg was not exhibited.

TAKE NOTICE.

Many Surgeons who now recommend this Leg, formerly recommended the Palmer Leg or others, which are out of date since this invention, but the makers still publish the old certificates, renewing the dates of some, and leaving them off from others altogether. No comment is necessary.

TESTIMONIALS OF SURGEONS.

We, the undersigned, Physicians and Surgeons, residents of the city of Rochester, take pleasure in stating that we are well acquainted with Dr. Douglas Bly, and are familiar with his improvements of the Artificial Leg. That, in our opinion, the Leg, as improved and manufactured by him, has a marked superiority and many advantages over all others heretofore offered to the public.

The ball and socket joint of the ankle is the great characteristic of his improved Artificial Leg, which not only gives the foot an easy, graceful motion, quite natural in appearance, but renders it flexible and adjustable to uneven surfaces, desiderata not heretofore attained. It is constructed without metallic springs, bolts or joints, requires no oil, makes no noise, and is not liable to get out of repair. It is very strong and durable, and is, moreover, finished with great neatness and beauty. The structure and motions of it, so admirably supply those of the natural leg, that we have no hesitation in recommending it to the notice of those who have been so unfortunate as to lose a limb and require an artificial one.

Rochester, N. Y., May 14th, 1860.

W. W. REID, M. D., E. W. ARMSTRONG, M. D.,
E. M. MOORE, M. D., H. W. DEAN, M. D.,
T. F. HALL, M. D., W. W. ELY, M. D.,
P. G. TOBEY, M. D., WM. H. BRIGGS M. D.

VALENTINE MOTT, M. D.

New York, Feb. 10, 1860.

When the Palmer leg was invented, I recommended it to all who needed anything of the kind, because it was an improvement on the old Anglesea Leg. And now I have the pleasure of informing them that Dr. Bly has invented a leg which is a great improvement on the Palmer leg. The advantages it possesses over the Palmer leg are :

First. The ankle joint admits of motion not only antero-posteriorly, but laterally, which allows the wearer to walk on any grade, or on rough and uneven surfaces, without inconvenience.

Second. The ankle joint is constructed without iron, steel, or metal of any kind ; in fact, little or no metal is used in the limb, which renders it very light.

Third. The joints, instead of being bushed with buckskin, which requires a renewal at the hands of the maker, when worn, are adjustable, and under the control of the wearer.

Fourth. The springs are made of India rubber, and imitate more closely the action of the muscles.

Fifth. The action of the springs can be increased or diminished at the option of the wearer, whereby each can adjust the motions of the leg to suit his own peculiar gait.

VALENTINE MOTT, M. D.,
Emeritus Prof. of Surgery and Surgical Anatomy in the University of N. Y.

ALFRED C. POST, M. D.

New York, Feb. 10, 1860.

I concur in the above recommendation.

ALFRED C. POST, M. D.,
Prof. of the Principles and Operations of Surgery in the University of N. Y.

JAMES R. WOOD, M. D.

NEW YORK, 2d mo., 15th, 1860.

I have examined with care the ball and socket jointed leg, invented by Dr. Bly, and am satisfied that the mobility of the ankle-joint, whereby the foot can accommodate itself to grades and inequalities of the ground, is a great improvement upon all artificial legs made heretofore.

JAMES R. WOOD, M. D., No. 2 Irving Place,
Surgeon to Bellevue Hospital, New York.

A. B. SHIPMAN, M. D.

SYRACUSE, N. Y., April 25th, 1860.

I am familiar with Dr. Bly's Ball and Socket Jointed Artificial Leg, and must say that it meets the wants of patients the best of any artificial leg ever brought before the public. A flexible ankle joint that is susceptible of every motion of the natural one, is what has long been wanted. This Dr. Bly's leg has, and it is this that marks its superiority over all others.

A number of my patients are wearing the Palmer Leg, and their motions are stiff and cramped or confined. They seem to want a freedom of motion, especially if on uneven ground. There are also a number of my patients who are wearing Dr. Bly's Leg, and *their* motions are natural, free and easy, so much so, that one of them came into my office, and his gait was so natural that I did not mistrust that he was my patient, or that he was wearing an artificial leg, until he showed it to me.

With utility Dr. Bly's Leg combines durability. One of my patients, a large, powerful man, who works in a saw-mill, where he rolls logs and carries lumber over all sorts of rough places, has worn one of Dr. Bly's Legs for a year without its giving out or getting out of order in the least.

A. B. SHIPMAN, M. D.,
Late Prof. of Surgery in the Indiana Med. College.

WILLARD PARKER, M. D.

I have examined the Artificial Leg of D. Bly, M. D., and have formed a very favorable opinion of its character.

WILLARD PARKER, M. D., 37 East 12th street,
Prof. of the Principles and Practice of Surgery in the College of Physicians and Surgeons, New York.

ALDEN MARCH, M. D.

ALBANY, N. Y., Feb. 22, 1860.

I concur in the above.

ALDEN MARCH, M. D.,
Prof. of Surgery in the Albany Medical College.

CHARLES A. POPE, M. D.

ST. LOUIS, Aug. 17th, 1860.

DR. D. BLY:

Dear Sir :—Your artificial leg seems to me to possess evident advantages over all others hitherto invented. I doubt not that it will speedily become the favorite substitute. So far as I know, those who have worn it are abundantly pleased.

Yours, &c., CHAS. A. POPE, M. D.,
Prof. of the Principles and Practice of Surgery, in the St. Louis Medical College.

WM. H. VAN BUREN, M.D.

NEW YORK, Jan. 27th, 1863.

I have recently examined Dr. Bly's Artificial Leg, and am fully satisfied as to the great merit of its mechanism, and also as to its practical utility.

WM. H. VAN BUREN, M. D.,
Prof. of Anatomy, University of New York.

E KRACKOWIZER, M. D.

DR. DOUGLAS BLY: NEW YORK, January 15, 1863.

Dear Sir—I can add nothing to the emphasis and conciseness wherewith some of the best surgeons have expressed their opinion about the superiority of your Artificial Leg over all others.

Yet, having been on the Committee of the New York Academy of Medicine charged with the examination of artificial limbs, I do not think I should withhold my views of their comparative merits.

The Committee had the matter under investigation and consideration for two years before it thought itself sufficiently posted to report through its Chairman, Dr. T. M. Minor, of Brooklyn, N. Y. Although the report was unanimous, I beg you to take what I shall presently say, as my individual opinion. We had *four* artificial legs before us: Selpho's, Palmer's, Jewett's and yours. Selpho's, Palmer's and Jewett's may be arranged in one class, permitting only flexion and extension at the ankle joint, while yours forms another class, imitating in addition, the combined motion of the calcaneo-astragaloid and astragalo-scaphoid joint—in short, giving universal motion in *one joint*, wherefore nature has formed *three* separate joints.

The Palmer, Jewett and Selpho legs all belong to the same class, neither having any lateral motion, whereas, in yours lateral motion results from a mechanism which combines firmness and any desired degree of mobility, in such perfect unity, that it seems impossible to devise any closer imitation of nature.

Allow me to give a short illustration of the superiority of your limb over those in the other class. At the last meeting of the Committee, two men were present. One, Mr. J. B. Hine, of New Haven, Ct., had undergone amputation of both legs. He wore two of Palmer's artificial legs for many years, and was a great expert in their use. The other, Mr. Henry Eitt, of Rochester, N. Y., had practiced on him the same operation, and wore two of your limbs for half a year. Mr. Hine had always a walking stick in hand, although not always using it, except in cases when he might lose his balance. Mr. Eitt relied entirely on the support of his artificial limbs. A plank twelve or fifteen feet long was brought into the room, and one edge elevated so as to make an inclined plane in the direction of its transverse diameter. When only at a moderate angle, Mr. Hine, with the Palmer legs, could not get along on it except by the use of the walking stick, and when at an angle at which the members of the Committee could still walk its whole length, even his cane did not keep him, and he had to come down after a few labored steps. Mr. Eitt, wearing your legs, walked along the inclined plane with the greatest ease—*even when the inclination was so steep that it was difficult for our natural feet to keep the balance.*

I am, very respectfully, your obedient servant
DR. E. KRACKOWIZER,
49 Amity Street.

CINCINNATI, Ohio, June 2, 1868.

We have recently examined Dr. Bly's Artificial Legs, and are fully satisfied as to the great merit of their mechanism, and also as to their practical utility.

E. B. STEVENS, M. D.,
Prof. Materia Medica and Therapeutics, Miami Med. Col. Cincinnati, O.
W. P. KINCAID, M. D.,
J. D. KEMP, M. D.,
JNO. B. RICE, M. D.,
C. P. LANDON M. D.,
THAD. A. REANY, M. D.
J. C. BROWN, M. D.

GURDON BUCK, M. D.

NEW YORK, Jan. 26th, 1863.

Having been present at an exhibition by Dr. Douglas Bly of the structure and mechanism of an Artificial Leg of his own invention and manufacture, I was led to form a very favorable opinion of it, and to regard it as possessing certain advantages which make it preferable to any other Artificial Limb within my knowledge.

GURDON BUCK, M. D.,
No. 121 Tenth St.,
Surgeon to N. Y. Hospital and St. Luke's Hospital.

A. A. CROSSE, M. D.

PLATO, LORAIN CO., OHIO, Feb. 4th, 1863.

DR. DOUGLAS BLY:

Sir—Being anxious to relieve suffering humanity, I take this occasion to state the superiority of your Artificial Leg to that of the Palmer Leg, for the information of those who are interested in the use of Artificial Limbs. Having worn both your leg and Palmer's about two years each, I may be allowed to judge of the merits of both. I deem the rubber springs in your leg far more natural and life-like than the metallic spring in Palmer's. They are less liable to get out of repair, and impart a more life-like elasticity to the motions of the foot and ankle. Again, the rubber springs are so arranged that in the act of walking, a portion of the springs are being contracted, while the remainder are expanding, thereby preventing a very disagreeable clapping of the foot upon the floor. Another very important advantage which Dr. Bly's leg has over the Palmer leg is, the universal motion imparted to Dr. Bly's leg by the arrangement of rubber springs and the ball and socket joint. It is impossible to walk gracefully upon uneven surfaces with the Palmer leg—besides the wearer is liable to stumble; while with Dr. Bly's leg one may walk well where it is very rough, as the foot adjusts itself to the surface, whether even or uneven. Again, the bolt at the ankle joint of the Palmer leg becomes worn after a little use, thereby causing a very disagreeable clatter at every step, and if not sent to the manufacturer often to be bushed, it annoys the wearer very much. Happily this is not the case with Dr. Bly's leg, as there is nothing metallic about the ankle joint. My experience is that Dr. Bly's leg is much superior to the Palmer leg in every important particular.

It is so much better that some four months ago I had my Palmer leg remodelled and improved with Dr. Bly's ball and socket joint and India rubber springs. The improvement is decided, and well pays the expense. Respectfully yours,

A. A. CROSSE, M. D.

P. S.—I am glad you have a Government contract for the manufacture of Artificial Limbs, for I look upon you as a public benefactor.

A. A. C.

CHICAGO, June 15, 1868

Having seen the action of "DR. BLY'S ARTIFICIAL LEG," I take pleasure in recommending it to those who have lost the natural limb.

EDMUND ANDREWS, M. D.
Prof. Surg. Chicago Med. Col.
THOS. BEVAN, M. D.,
Clinical Lecturer Cook Co. Hospital.
THOS. T. ELLIS, M. D.,
late Med. Director U. S. A., 114 Dearborn st., Chicago.

CHICAGO, June 24, 1868.

I have had frequent opportunities to examine the Artificial Leg manufactured by Dr. Bly, and take pleasure in recommending it to any one who may be so unfortunate as to need such an appendage. It is one of the best in use.

WALTER HAY, M. D.

TESTIMONY OF THOSE WEARING LEGS.

NEW YORK, No. 8 Spruce street, June 6, 1868.

Dr. BLY, 658 Broadway, New York :

Dear Sir—Some seven years since I had the misfortune to injure my leg so that amputation became a necessity, leaving me the knee joint and about seven inches of stump. As soon as it healed, I applied to a prominent manufacturer of legs in this city, who made what was said to be the best leg in the market, and had one made, which I wore about two years. Meantime, among the great variety of legs which were in the market, to which my attention was called, was yours, and after a careful examination of those most prominent in the manufacture, I believed yours possessed advantages which none of the others had. Five years' constant use of it has confirmed me in the opinion first formed of it, that it possesses advantages which no other has. Prominent among these advantages are three very material ones, which cannot be brought too strongly into notice :

First.—The "Ball and Socket" joint, which gives to the ankle a life-like movement, and what is of much consequence to the wearer, prevents the often cramping of the stump in the socket when anything uneven is stepped on, which cramping is, and must always be the case, with those that have not the universal movement.

Second.—Your manner of constructing the ankle joint allows of regulating the tension of the springs therein, at the pleasure of the wearer. It is well known to those who are obliged to wear artificial legs, that after using them for a time the springs will lose somewhat their tension; also that the heel-cord will stretch and the joint become shackling, but in yours the wearer can regulate either of these in a minute, so as conform exactly to his weight or movement in walking.

Third.—Resulting from the manner of constructing the ankle joint and the kind of springs used therein, there is an elasticity of motion from the time of putting the heel to the ground to the time the toe leaves it, that produces a sensation in the wearer almost delicious. This feature I cannot too highly commend. Indeed, so highly do I prize and appreciate it, that I could never be induced to have another leg that did not have this, as well as the other two features above named. Besides this, it prevents the heavy, dead thumping sound which always heralds the approach of a man wearing an artificial leg, so disagreeable to the hearer and mortifying to the wearer. It also induces so little friction in the joint, that although I have worn this for five years, I have never had occasion to oil the ankle joint; and all its movements are so natural, that many of my acquaintances whom I meet almost daily, have no idea but what both my legs are "natural."

In conclusion, the use of this has given me such satisfaction, that I feel I cannot do those who, like myself, have been so unfortunate as to lose a leg, a greater service than by recommending yours to their favorable consideration.

Yours, truly, C. POTTER, JR.

MACEDON, N. Y., June 7th, 1868.

DR. BLY:

Dear Sir—I have the pleasure to inform you that I have worn your ball and socket artificial leg four years, and find it superior to any other I have ever used. I have used one of the ———— and examined many others, and am thoroughly satisfied in favor of yours. Yours truly, JOHN HAVENS.

ALBANY, N. Y., July 30th, 1860.

DR. BLY:

I am very much pleased with my artificial leg you made; it works well, so life-like in all its motions. The superiority of your springs over the metallic ones I have formerly worn, is very apparent. I can walk with perfect ease and elasticity. I am on my feet from early dawn till night, both in and out doors, without the least inconvenience, since wearing the one made by you, but I could never do it with either of the former legs, to a much less extent, without wounding me severely; this great difficulty is now done away with.

I have worn legs of several different patents. Over all of these I must give yours the decided preference. Yours, with much respect,

ANNA McCREA.

DOUBLE AMPUTATION.

DUNKIRK, N. Y., June 5, 1868.

DOUGLAS BLY, M. D.:

Dear Sir—Having had the misfortune to lose both my legs in line of duty, I procured an order from the Government for two of yours. I have now worn them three years, and am pleased to say, that they have proved entirely satisfactory, and I feel that I am fulfilling a duty in returning my thanks for the great benefit I have received from them. With them I am enabled to walk with ease and perfect reliability. Yours, very truly,

SIDNEY L. WILLSON, P. M., Co. C, 72d Reg. N. Y. Vol.

CHICAGO, Aug. 16, 1868.

DR. BLY:

Dear Sir—I am now in your office at this place getting some new suspenders for that artificial leg you made for me three years ago. I have worn it constantly since that time, and it is now in perfect order.

Yours very truly, C. POOR, Dubuque, Ia.

OFFICE CLERK CIRCUIT COURT,
PORTAGE CITY, Wis., March 28th, 1868.

DR. D. BLY:

Dear Sir—Your favor of the 24th was duly received. My leg is amputated below the knee. I wore the Palmer leg about three years previous to procuring one of your ball and socket legs last summer. Your leg works splendidly, indeed I am perfectly delighted with it. I think the ball and socket leg is far superior to the Palmer leg for several reasons, viz: It feels more comfortable, in fact it feels perfectly easy and comfortable, and I can walk much farther on it with very much less fatigue. I think it is less liable to get out of order, and if it should get out of order it is much easier repaired than the Palmer leg. There seems to be *Life* in the foot that assists in walking, and tends to effect a graceful movement. I think the way the foot is fastened to the leg is a very important item, as it is an easy matter to replace a cord and regulate the length of the same if necessary. The curved knee joint is a grand improvement, and nothing would induce me to do without it. It is useless for me to attempt to mention all the advantages this leg has over the Palmer leg, or any other. I like it better the longer I use it. I am under everlasting obligations to you for so *genuine* an article, and I would most respectfully urge all persons desiring anything in the artificial leg line to call at your office. Very truly yours,

C. A. DIBBLE, Clerk Circuit Court.

WASHINGTON, D. C., June 10th, 1868.

I have worn one of Dr. Bly's anatomical legs nearly five years, during which time I have had numerous opportunities of testing its merits by actual comparison and trial with persons wearing legs of other manufacture.

My experience and observation convince me that it comes nearer to nature, and all things considered, is superior to any other artificial leg in use. I might add that I have not touched a crutch or lost a day's time in four years, &c., &c.

H. P. WOLCOTT,
Brevet Lt. Col. and Paymaster U. S. A.

AURORA, N. Y., June 4th, 1868.

DOUGLAS BLY, M. D., Rochester, N. Y.:

Dear Sir—Yours of the first inst. is received, in which you wish to know how I like the artificial leg that I bought of you. In reply I would say that it is giving me entire satisfaction. It is the third leg I have had. The first, a government leg by B. W. Jewett; next a Salem leg, which, after trying to wear three months, I had to lay one side. I am a large man, weighing over 200 pounds, and am able to wear your leg without suffering any inconvenience of soreness, or of becoming tired. I take pleasure in recommending any person unfortunate enough to require an artificial leg, to get one of Dr. Douglas Bly.

Yours truly, J. McDOWELL,
Late Sergeant 111th Regt. N. Y. V.

MILWAUKEE, Wis., April 7th, 1868.

DR. D. BLY:

Dear Sir—It is with pleasure that I comply with your request to give my opinion of, and experience in, wearing your "Ball and Socket Leg." I lost my leg December 31st, 1862; amputation some three inches below the knee; and stump in a very bad shape, caused by much sloughing, and in consequence is badly cicatrized. After studying closely all the different patents that I could get a description of, I got one of Dr. Bly's Ball and Socket legs in 1863, and have worn it ever since with perfect satisfaction; and when I have had opportunities to observe the action of most all other patent legs and hear the experience of the wearers, I became more firmly convinced that I ought to be really thankful that I made the fortunate selection that I did.

I believe the Ball and Socket gives your Leg the advantage over all others. It gives ease and comfort to the wearer in walking over uneven surfaces, preventing any sudden pry or jerking on the stump when the foot strikes on a rough or lumpy surface; also it enables the wearer to walk with ease on sloping ground or sidewalks, just as well as on a level, as the side motion allows the foot (as nature formed the natural foot to do), to adjust itself, and the purchase and consequent strain is at once where nature intended it to be. Further, the Ball and Socket joint causes the motion of the foot to be perfectly natural, so much so, that the observer, with the closest scrutiny, cannot always detect it from the natural—and, moreover, the manner in which the four cords are placed, enables the wearer with a very little experience to correct the tension so nicely to his weight and bearing, that he can walk with a perfectly natural step and motion.

I walk so natural that persons who have known me for months, seeing me every day, did not even mistrust that I wore an artificial leg till I told them. I have not used a cane since the two first months that I wore the leg. I put it on on rising and do not take it off till I retire.

My business requires a good deal of walking, and I accomplish it with more ease than any one that I know, wearing any other patent. I go up and down stairs, stepping alternately with very little extra effort. Any one is at liberty to address me at 406 East Water st., Milwaukee, Wis., when I will be happy to give them all the information in my power.

I remain very respectfully yours,

S. J. WILLIAMS.

SARDIS, Miss., June 11th, 1868.

DR. DOUGLAS BLY:

Dear Sir—I have been using your excellent "Leg," with the Ball and Socket, since January, 1866, and consider it a perfect success. The whole motion of it is natural, easy and graceful, and the weight trifling. I am satisfied that it is the best limb made, and would advise all who have been so unfortunate as to lose a leg, to try Dr. Bly's patent before purchasing elsewhere.

Very respectfully, your obed't serv't,

ROSCOE DICKINS.

AN ARTIFICIAL LEG IN THE ARMY.

CAMP ———, Dec. 10, 1862.

DR. BLY:

Dear Sir— * * * * I think I did well to be sworn in to the service without being found out, or even mistrusted. I am in ——— Regiment, ——— Brigade. After we had travelled two hundred miles I told Capt. ——— that I wore an artificial leg, and he was utterly amazed. He said no one would think of such a thing to see me, and as it was, nothing should be said as long as I did my duty. Give my respect to your workmen, and tell them that I would not be without the "ball and socket" for anything. Yours ever.

P. S.—You must not tell my name nor regiment, because it will be "all day" with me if Uncle Sam finds it out.

The following short letter from J. B. Hood, formerly Brig. Gen. in Confederate service, is important, on account of the great variety of legs tried.

NEW ORLEANS, Jan. 11, 1867.

Sir—It is with pleasure that I state, that of all the Artificial Legs that I have used, I prefer that of Dr. Bly. I have tried the French, English and American. His has given me more satisfaction. Respectfully,

J. B. HOOD.

SHERIFF'S OFFICE,
OQUAWKA, Ill., May 9th, 1868.

DR. D. BLY:

Dear Sir—I have worn one of your artificial legs for the past year, and can say that I am highly pleased with it. In the points of durability, ease of action and natural movements, it seems to leave nothing more to be desired. I had previously used other artificial legs, but none of them gave satisfaction.

I have no hesitation in recommending your artificial legs, believing them without any equal. Very respectfully yours,

W.. BENIGER, Sheriff Henderson County, Ill.

UNDERWRITERS' AGENCY,
BOVEE & BAKER, Agents,
WILMINGTON, Ill., April 8th, 1868.

DR. BLY:

Dear Sir—I am satisfied with my leg. I do not think of carrying a cane now. You can refer to me at any time, and I will recommend your leg with pleasure.

Yours, truly, L. A. BAKER.

MILWAUKEE, June 20th, 1868.

I cheerfully recommend Dr. Douglas Bly's improved artificial limb as the greatest invention of the age, and to all soldiers having use for the same as the only one for use. As a soldier wounded at the battle of Laurel Hill, Virginia, May 10th, 1864, I applied to Dr. Bly for an artificial limb, and have worn the same for over three years without the least inconvenience, and, which is much better, without repair; and experience fully demonstrates to me that it is the only limb that can give that ease and facility in walking like a natural leg.

FRANK GRAHAME,
Co. A, 6th Wis. Vet. Vols., Clerk Wil. P. O.

CHICAGO, June 12th, 1868.

DR. BLY:

Dear Sir—I have worn one of your knee bearing legs for nearly three years and consider it the best artificial limb in use. I would recommend it to those who are in want of one in preference to all others.

Yours respectfully, THEODORE STEWART.

LOWELL, Mass., 30th July, 1868.

DOUGLAS BLY, M. D.:

Dear Sir—I have worn one of your Ball and Socket Legs for three years. It does not get out of repair but works easy and without noise, and gives me perfect satisfaction. I like it so well that in May last I procured another at your office in New York, and this one works just as well as the first, which is all that I can ask for. Yours most respectfully, FRED'K TAYLOR.

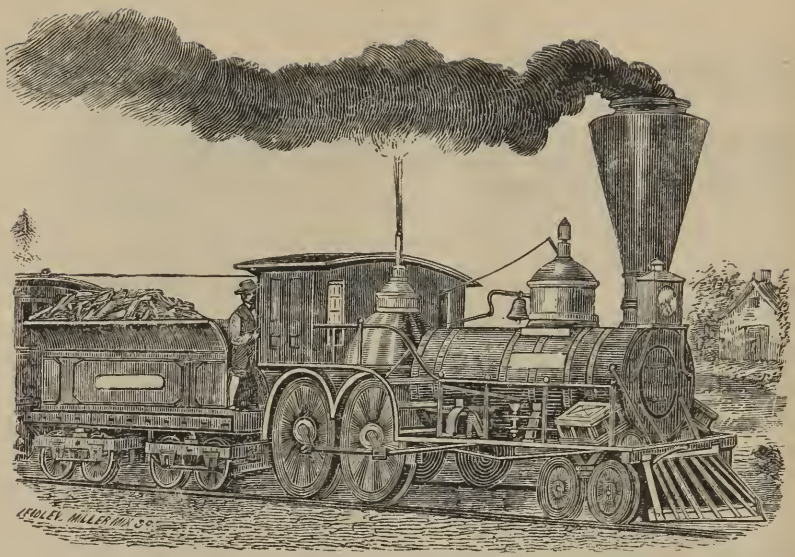
DUNKIRK, June 2d, 1868.

DR. D. BLY:

Sir—Yours of the 1st inst. is at hand. In regard to Dr. Bly's leg, I can say that I like it far better than any other, and think it far superior to any other. I therefore recommend it to any one who needs an artificial leg.

Very respectfully yours.

JOHN F. SNOROBOLE, Dunkirk, N. Y.



BATAVIA, N. Y., August 1, 1858.

DR. BLY—*Dear Sir :* For the benefit of Railroad men, I send you this testitimonial in relation to the Artificial Leg you made for me.

I am an engineer, and run a locomotive on the N. Y. Central R. R. I have tried a number of artificial legs of different construction, and yours enables me to work about my engine with more ease and facility than any other. The mobility of the ankle joint, which allows the foot to adapt itself to the motions of the engine, also to the unevenness of the ground in jumping off, is of great importance to railway men. I have had it a year, and it has given me no trouble in breaking or getting out of order, though it has had some severe tests in jumping off the engine.

H. BACKUS.

ADDITIONAL TESTIMONY FROM H. BACKUS.

BATAVIA, N. Y., June 1, 1860.

It is now about two years since I obtained one of Dr. Bly's Ball and Socket Jointed Artificial Legs, and I can testify that neither joint, spring, or any part of it, has got out of order in the least.

H. BACKUS.

JAMES BOLTON, M. D.

RICHMOND, VA., May 16, 1830.

DEAR DOCTOR :—It gives me sincere pleasure to testify to the satisfaction which has been given by the limb fitted by you upon my ward, Master ————. On his arrival home, all his friends were most agreeably surprised by the improved appearance which it gave him, and by the remarkable easy gait with which he walked, after but a few days' use. He has continued to wear it to the present time, without having been compelled to lay it aside for a single day, and of course he now uses it with increased dexterity. The chief advantages possessed by the limb, appear to me to consist of the beautiful imitation of the natural mechanism of the ankle joint. Instead of the heavy metallic hinge joint with its rivets, requiring frequent oiling ; often working loose and clattering, or working too stiffly, and creaking ; your limb has a beautiful substitute for the ligaments and tendons of the natural joint. This not only avoids the objections to the metallic joint, but gives a graceful elasticity to the step, by a contrivance far more durable, and more resembling that of nature, than the metallic springs in ordinary use. In addition to this, the ball and socket give a sufficient lateral rotation to the foot, to adapt its sole to the uneven surfaces upon which it may be placed.

Very respectfully yours.

JAMES BOLTON, M. D

DR. DOUGLAS BLY, Rochester, N. Y.

MICHAEL RYAN.

NASHVILLE, Tenn., Sept. 10, 1859.

DR. BLY:

Dear Sir—I send you a few lines for the benefit of those who are situated as I was before I used your newly-invented Artificial Leg. I had heard that you had invented a leg by dissecting; and that by taking Nature for your guide, you had made a leg which has all the flexibility and motions of the natural leg, which makes it remarkably useful and life-like; still I was afraid to write to you to make me one, because I thought the story too good to be true. And I should not have got one had it not been for Dr. Carow, of Nashville. He told me that he had seen it, and that it was really modeled after the natural leg, and that it was one of the finest things ever invented, and I had better get one. I took his advice, and I am a thousand times obliged to him for his kindness. Notwithstanding all that I have heard and read, my highest expectations are more than realized. And to all who have any doubts after reading this, I say come and see my leg, or go to Dr. Bly's establishment and see for yourselves, for in this case seeing is believing. Respectfully yours, MICHAEL RYAN.

LAWRENCEBURGH, Ind., Aug. 29, 1859.

DR. BLY:

Dear Sir—My leg operates very satisfactorily. My friends are all pleased with its natural motion; in fact some have told me they could see no difference in the motion of my feet when walking.

I can walk on boulder pavements with ease—your Ball and Socket Ankle-Joint allowing the foot to adjust itself to the unevenness of surface very much like the natural one.

The whole appearance is so good that but few notice that I have an artificial leg. In three weeks after leaving your establishment, I traveled about twelve hundred miles, and have been in company with people for half a day, in hotels, cars and stages, who did not suspect but I had both my natural legs.

Resp'y yours, etc. WILLIAM LEAL.

ADDITIONAL TESTIMONY FROM WILLIAM LEAL.

AURORA, Ind., May 13th, 1860.

DR. BLY:

Dear Sir—In answer to your inquiries about the leg you made me, I would say that it still remains in as good order as when I wrote you last summer. It has needed no repairs whatever, and has no appearance of needing any yet. The ankle joint is superior to any other in use, it gives an easy motion, no jerking against the stump, on the roughest ground; it is always tight, and mine shows no wear yet.

A stranger came to work in the establishment where I am employed, and he had been there a month, when I made a remark about my leg; he looked surprised and said, "what do you mean?" I said, "do you not know that I wear an artificial leg?" He said he "had not thought of such a thing."

My P. O. address is now at Aurora.

Respectfully yours,
WILLIAM LEAL.

STILL LATER TESTIMONY FROM WILLIAM LEAL.

AURORA, Ind, May 13, 1862.

DR. BLY:

Dear Sir—Two years ago to-day I wrote to you that my leg was in as good order as when I wrote you the season before that, and I now repeat the same thing. I have now worn it between three and four years without spending a cent on it, and it is all right yet. Respectfully yours.

WILLIAM LEAL.

MAJOR J. F. DENNISTON.

OFFICE FOR THE PAYMENT OF COMPANY SAVINGS, NO. 223 "G" STREET,
WASHINGTON CITY, Sept. 29th, 1865.

DR. DOUGLAS BLY, U. S. Commissioner:

Dear Sir—Understanding that you are about to revise your pamphlet, I thought a word through you to the unfortunate, from an artificial leg walker, might not be amiss. My right leg has been amputated twice, the last time about half way between the knee and ankle joints. I procured one of your best Ball and Socket Legs at New York city, and put it on, for the first time July 10th, 1865. I used one crutch for two or three days, and after that a cane for two weeks; since then I have discarded all artificial support, except your valuable leg.

On the 29th of August I attended the Military Ball given by the officers of the 1st U. S. Artillery, at Ft. Saratoga, D. C., and waltzed with great ease. I have since danced frequently without inconvenience to myself or injury to the limb. Last evening, at a small social party, I danced a half dozen quadrilles, and feel no inconvenience this morning. All persons I meet, minus a leg, I advise to procure your best artificial limb, which I consider much cheaper than the many inferior ones offered to the public (perhaps in good faith) at a lower price. I walk more naturally than any person I have ever seen, and the foot is of such perfect mechanism and symmetry, that persons unaware of the fact, fail to discover that I have lost a limb. I am an object of surprise to myself and wonder to my friends.

With my sincere thanks for the benefit of your invaluable invention, I give you full permission to publish all, or part of this letter, if you wish,

Most respectfully, your ob't serv't,
J. F. DENNISTON, Brev't Maj. and C. S. Vols.

UNEXPECTED TESTIMONY.

The following letter from Mr. Geddis to Mr. Parks in answer to inquiries in relation to artificial limbs, is very gratifying indeed, particularly as I had not heard from Mr. Geddis for nearly two years. The letter being shown me by a third party only a day or two before going to press, I publish it without asking the consent of either Mr. Parks or Mr. Geddis, therefore I must beg their pardon for taking such liberties:

SCHAGHTICOKE, April 24, 1862.

MR. S. C. PARKS, Troy, N. Y.:

Dear Sir—Yours of yesterday is at hand, and I cheerfully render you all the information in my power. I suffered amputation of my right leg above the knee in 1855, was advised to try the "Palmer Improved Leg," which I did in the fall of 1856, procuring it at the "Home Office," under the special observation of Mr. B. F. Palmer, who knows how to sympathize, while striving to ameliorate the unpleasant condition of such as you and I.

I was well satisfied with it, walking nearly as well as I ever did. But I was troubled very much with the metallic springs breaking, sometimes as often as every week. Finally, in June, 1860, I went to Rochester, and had my old leg remodelled with Dr. Bly's improvements *below* the knee, which I then liked very much, and which I now like still better, for I can walk much easier, with less effort and more freedom than on the Palmer patent.

The great benefit of Bly's over all other improvements I have seen, is his substitution of rubber in place of metal for springs, and the ball and socket ankle joint, which admits of a very natural movement in every direction, whereas the others admit of only an up and down front movement.

I should advise you by all means to have Dr Bly's Leg * * * If there are any particulars about which I can give you any light, I shall be happy to do so. I shall *try* to go to Rochester about the 1st of June, on the same errand, and if you do not go before, I should be glad of your company. * * * I should also be glad to show you the leg, and explain its workings. Your friend and well wisher,

I. W. GEDDIS.

MAJOR T. A. DODGE.

WAR DEPARTMENT,
WASHINGTON, D. C., Sept. 29, 1865.

DR. DOUGLAS BLY, M. D.:

My Dear Doctor—I enclose a few words from my friend Maj. Denniston. For the short time he has worn his limb, only two months, I consider him by far my superior in walking, but when he lays claim to the title of "best artificial leg walker in the world," I am disposed to disagree with him. Maj. D. waltzes very well on your Ball and Socket Leg, an accomplishment which I have not *now*, because I *never* did waltz. But there are two or three things I can do that I have never met any one with an artificial leg that could approach me in, or even do at all.

First. I can run for one or two hundred yards, as well as most two-legged men; I frequently run two or three blocks to catch a street car, and I catch it too. I will run *any* man that wears an artificial leg *any* distance, for *any* amount.

Secondly. I can *run* up and down stairs, either one or two steps at a time, not *walk* up stairs, but *run* up stairs, and down; and I have yet to find my equal in this.

Thirdly. I can ride better than any one-legged man I ever saw, and will ride a steeple chase with any one who boasts an artificial leg—obstacles to be of any size or difficulty, to suit whoever may desire to ride with me.

I have worn my leg since January 1st, 1864—nearly two years; and though I am particularly hard on artificial legs, because I knock them about so much, the original leg you made me then is still as good as new. My amputation, as you know, is midway between knee and ankle. I walk several miles every day, utterly ignoring such a thing as a cane (which is a positive nuisance) and I have made friends since I wore my leg, that have known me for months and months without even suspecting that I was otherwise provided with "understanding" than themselves. A day or two ago, Mr. DeZang, of Geneva, N. Y., and of this city also, whom I have met daily two or three times for nearly a year, was walking with me, when I pointed out a shoemaker, who I said was the only one I had found who fitted me nicely, since I lost my leg. He turned to me with a look and inquiry of astonishment, and I really had hard work to convince him that I wore an artificial leg. Once I bet and won fifty dollars on the question whether or no I had an artificial leg—the loser not being convinced till I had shown him the artificial itself.

But enough. Any one desiring more information about your truly wonderful leg, can apply to me as above. Any one doubting the authenticity of this letter may address me, or come and see me; and I shall be delighted to answer all inquiries, if I can in any way recompense you for your inestimable benefit to me.

Believe me, dear Doctor, most sincerely your friend,
T. A. DODGE, Maj. V. R. Corps, Mil. Sup't War Dep't Bl'd.

OGDEN, Monroe Co., N. Y., Sept. 1, 1859.

I have used Artificial Legs of various constructions for twelve or fifteen years, and latterly have worn one of Dr. Bly's Ball and Socket-Jointed Legs which, in principle and operation, is a great and essential improvement on those heretofore used.

The motions of this limb are more natural than any I ever saw before. The universal motion at the ankle-joint is worth everything to a farmer; it enables me to go about my farm and do my work, no matter how uneven the ground. I can chop, make rail fence, dig ditch, and do most all kinds of work, though my leg is amputated above the knee. It is now more than a year since I obtained this leg, and it has given me no trouble in breaking or giving out, as all my others have done. EASTMAN COLBY.

ADDITIONAL TESTIMONY FROM EASTMAN COLBY.

OGDEN, Monroe Co., April 27th, 1860.

I hereby certify that I have worn one of Dr Bly's Ball and Socket Jointed Legs for two years, and that the Ball and Socket Joint and the cords connecting it have not broken, given out, or got out of repair in the least. It is the first and only leg I have ever had that does not require tinkering. I have worn artificial legs of different patents, for fifteen years, but have never worn any with which I could walk with the ease and facility that I can with Dr. Bly's, especially

FIG. 13.

H. J. DRAKE.

CHELSEA, MICH., Aug. 15, 1859.

DR. D. BLY:

Dear Sir—After so long a time, I write to inform you how I am getting on with the Artificial Leg you made me. I have been wanting to give it a fair trial. I cannot find words to express my satisfaction.

I have mowed my grass and made my hay myself—and that, too, on the marsh, where it was very boggy.

I have cradled my oats myself, (see fig. 13) and raked and bound them. In fact I can do most all kinds of work.

I liked to forgot to tell you about threshing. I have been all round the neighborhood threshing; and by thus changing work, have got help to do my own threshing. Doctor, if I could not get another leg of this kind, I would not take one thousand dollars for this one.

Most sincerely and thankfully yours,

H. J. DRAKE.

JACKSON, Mich., Sept. 13th, 1867.

DR. D. BLY, Rochester, N. Y.:

Sir—My limb works well. I can do most kinds of work. I took my cradle and went into the harvest field, and worked all through harvest with other hands, doing as much as any of them. I have cut and put up about eight tons of hay for myself, besides cutting and putting up ten tons for another man. In short, I have worked all this summer at the various kinds of work on a farm.

Your obedient servant, DANIEL J. BRIGGS.

VENANGO, Pa., June 8th, 1868.

I have worn artificial legs from different establishments for the last twenty-five years, and for the last five years I have worn one of Dr. Bly's legs, and for comfort, ease and durability, I give it the decided preference over any other leg that I have ever worn.

Very respectfully,

M. L. FAULKNER.

BONEVENTUE GROSS.

St. Louis, Mo.

Dr. Bly:

Dear Sir—I am not able to express my thanks to you for the Artificial Leg you made for me. I find that it has merits which I did not know of until I began to use it.

The doctors here told me that you had invented a leg, with the ankle-joint patterned right after the natural one, and that it would bend sideways and every way, just as well as the natural ankle—therefore I expected a good deal; still it more than fulfills my expectations.

Besides all this, I find there is no iron or metal of any kind used in the construction of the ankle-joint, which makes the leg *extremely light;* furthermore, the nature of the material is such that no oil is ever required. Then, for amputations like mine—below the knee—the curved joints on either side of the knee are a great improvement on the ordinary square or angular joints used by other makers.

When I sit down my pants set perfectly smooth over the knee, and I am not obliged to put my other leg across the joints to hide them.

BONEVENTUE GROSS.

Saratoga Springs, May 11th, 1860.

Dr. Bly:

Dear Sir—I am still wearing your artificial leg, and feel a satisfaction in saying, that it more than meets my expectation, for its lightness, adaptation and durability. The ankle-joint, to nature, is ALL that art can imitate; it is perfect in its action. I can walk with ease, and without a cane, on uneven ground, or elsewhere, and am attending to general business about the store.

As to its durability, it needs but a slight mechanical eye to observe that yours is more durable than any other that has been offered to the public.

Hoping that your success may continue, that your improvement may continue to relieve the unfortunate, as it has me.

I remain, yours, &c.,

CLARK W. SALISBURY.

A PALMER LEG REMODELED AND IMPROVED.

Buffalo, Sept. 17, 1859.

Dr. Bly:

Dear Sir—You ask the privilege of publishing my letters. You can do so, if you like. * * * * *

Yours, etc., WILLIAM BUSHNELL.

Buffalo, March 12, 1859.

Dr. Bly:

Dear Sir—I have been wearing the Palmer Leg for about four years, during which time I have had two—both made by B. F. Palmer, of Philadelphia. I have had a great deal of trouble and vexation, caused by breaking the instep springs. The instep spring in my second leg has just broken again, which leaves me entirely destitute—my first leg having been completely worthless for some time. I am satisfied that metallic springs cannot be depended upon in an artificial leg; therefore I would like to have you put your patent rubber spring into my second leg. If you will please inform me by return mail.

Most respectfully yours, WILLIAM BUSHNELL.

Buffalo, Sept. 10, 1859.

Dr. Bly

Dear Sir—I am still wearing my Palmer Leg with the rubber springs you put in for me. I like them very much. It makes me feel mighty comfortable to know that *he has springs that* CANNOT be broken. Besides, they have improved my walking very much, the action of the rubber being so much more natural.

Most respectfully yours, WILLIAM BUSHNELL.

LORENZO TAYLOR.

ELBRIDGE, ONONDAGA CO., N. Y.. Sept. 1, 1859.

Dear Sir—I have worn the leg you made me last May every day since; and in justice to you, *and those who are suffering as I was*, that they may not be imposed upon, I feel it my duty to let it be known how useful and important your invention is. I feel it more on account of a letter I received from Palmer & Co. before I got my leg.

I would not like to repeat what they say about your leg, therefore I send you their letter—you can read for yourself. If I had not been near by, so I could go and see your leg for myself, I should not have bought one, after reading their letter, but should have got one of theirs, which has only a single up and down motion at the ankle-joint, instead of the ONE I NOW HAVE, WHICH ADMITS OF EVERY MOTION OF THE NATURAL ANKLE.

If I happen to step on a sliding place, or on a stick or stone, the ankle-joint yields just enough to let the foot accommodate itself to the inequality, and thereby prevents all stumbling or inconvenience.

I work in a saw-mill, where I roll logs (see fig. 12), carry lumber, tend the saw, and do all kinds of work. When lifting, I sometimes put a strain on the leg, equal to the weight of two or three men, but I find that the leg can stand all I can lift.

The first week that I wore the leg, I walked with one crutch; the next week I used one cane, and the next week I lost my cane so often that I concluded to throw it away altogether.*

With much gratitude, I subscribe myself,

LORENZO TAYLOR.

* The third week, he "lost his cane so often,"—that sentence alone tells the whole story, to a thinking man.

UTICA, July 9, 1861.

To those wishing to procure substitutes for lost legs :

I, Thomas Morgan, having had the experience of several years in walking artificially, and consider myself competent of judging of the merits of artificial legs, and will speak without prejudice, as it is of no interest to me whatever ; only if I could, through my advice, help some one in procuring a good and substantial Leg. I first got a Palmer Leg, and having worn it out was compelled to get a new one. I had heard a great deal of Dr. Bly's famous Ball and Socket Jointed Artificial Leg. I made up my mind to have one, and see what I could get out of it in the way of walking. I have been walking on it one year, and to my satisfaction. I must give it a decided preference over the Palmer Leg ; it gives me more ease and comfort, and certainly has greater durability, as I cannot see as it has worn a particle yet. The Ball and Socket joint imparts ease that I cannot get where there is no side motion ; and secondly, it never requires bushing and constant tinkering to keep it in running order.

Yours, truly, THOMAS MORGAN, Utica, N. Y.

MT. GILEAD, O., January 24, 1861.

DR. BLY :

Dear Sir :—It is with pleasure, and from a sense of duty I owe you, I write this. The leg you manufactured for me works to a charm. Those not acquainted with the circumstance can hardly be made to believe that I use an Artificial Leg, as it is hardly perceptible, as I walk without crutch or cane, although I have only used it about three months. In conclusion, allow me to thank you heartily for what you have done for me, and also to congratulate you on your *great* invention, hoping that prosperity may be yours. I remain your obedient servant,

E. C. CHASE, *County Recorder*,
Morrow Co., Ohio.

INDIANAPOLIS, IND., May 12, 1861.

DR. D. BLY :

Dear Sir :—My experience in wearing Artificial Legs previous to wearing yours was such that I had made up my mind that all artificial legs were *necessarily* uncomfortable, and that I must put up with it ; but now I am happy to find that I was mistaken. The side motion in yours prevents all the cramping, straining and hurting the stump when I step on a stick or stone, or on uneven ground, a relief and comfort that no one can well understand unless he has worn a Leg without side motion. The curved joints at the knee, with the arrangement for tightening, are admirable. Either the ankle joint or the rubber springs, or both together have improved my walking very much. I walk so well that I am looked upon as an able man ; so well, that one of our captains, who was getting up a company, wanted me to join in his ranks, and one of the boys told him that I had an artificial Leg, so he examined me, and finding that he was sold, treated the crowd.

Yours, truly,
WM. B. JONES.

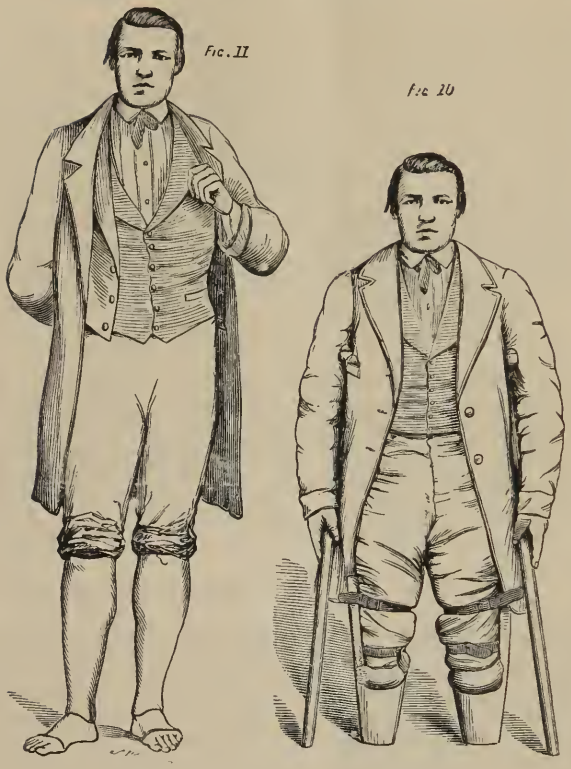
CINCINNATI, O., April 24, 1861.

DR. D. BLY :

Respected Sir :—I feel that I am fulfilling a duty in returning my sincere thanks for the great benefit I received in procuring one of your "Artificial Limbs." I can deeply feel for the poor wretch who has to pass through life on a crutch, *with aching arm, benumbed hand, and deformed appearance.* I would, as a fellow sufferer, urge on all such the necessity of procuring one of DR. BLY'S "Artificial Limbs." I have been walking for six months on one, and I have more than realized my most sanguine expectations. The ankle joint is *splendid*, (though the agent of "the Palmer Leg in Cincinnati" told me that it was useless, and that I would walk on the side of the foot in a short time), but that is impossible. I have since thought the gentleman had selfish motives, though it is uncharitable to practice them on the poor sons of misfortune. May your invention ever continue to be to others what it has been to me : a revival of life's happiest days. Again thanking you,

Believe me ever your debtor,
A. R. CALLAHAN.

HENRY EITT, of Rochester, N. Y.



AS HE IS. AS HE WAS.

BOTH LEGS AMPUTATED.

ROCHESTER, N. Y.

Dear Sir—I wish to state a few facts, which I hope you will publish for the benefit of those who have had the misfortune to undergo amputation of one or both legs.

For two long years after I had my legs amputated, I dragged out a miserable existence, walking on my knees, during which time I was shown a great many artificial legs; and after seeing and learning all that I could, I determined to procure a pair of Dr. Bly's Ball and Socket-Jointed Legs. And now, after using them, I can assure those wanting artificial legs, that their superiority over all others that I have seen, is decided and positive.

The great improvement consists in the mobility of the ankle-joint, which bends sideways and diagonally, and every way the *natural* ankle does. The side motion enables me to keep my balance with the same facility that others do, by allowing the body to sway to one side or the other, as the case requires, particularly when on a steamboat, or on the cars. It takes away the stiffness and uncertainty, or feeling as if on stilts, which there is when on TWO legs, which have NO lateral motion at the ankle. My motions are so free and easy, and I walk so well, that many are not willing to believe that I walk on TWO ARTIFICIAL LIMBS, until I show them. I live a little more than a mile and a half from the post-office, and I am in the habit of walking there, and about town, for an hour or two, and then home again, without a cane; and I ask no one to wait for me, either. If there is any one who does not believe it, let him try me.

I am now learning a trade, and am comfortable and happy.

HENRY EITT.

ROCHESTER, Dec. 27, 1859.

Some time in September last Dr. Bly called at my Picture Gallery and asked me if I could take the likeness of Mr. Eitt, a man who had lost both of his legs, and was wearing two of the Dr's "Patent Legs." I said I could in half an hour. A little before the time expired I went down to the foot of the stairs to see if they were coming, and see how the man walked. In a minute or two a man passed me and went up stairs; near him was the Doctor. I asked where the lame man was. "There he is," replied the Doctor. Said I, "he does not go lame." "Well, that is the man," said the Doctor. And I hereby state that Mr. Eitt, with two Artificial Legs, could and did, without the aid of a cane, walk in such a manner that no one would notice any lameness. He went up and down stairs without inconvenience. MATSON OTIS.

Artist and Proprietor of Gallery, No. 14 State St., Rochester.

STANTON, Portage Co., Wis., May 15th, 1860.

DOUGLAS BLY, M. D., Rochester, N. Y.

DEAR SIR: It is some time since my last to you. I have been waiting until I had thoroughly tried the Leg you made me, which I have done, and become satisfied that it is all that you represented it to be Before I got it, I thought that if one half its merits were true, which I found set forth in your pamphlet, it would be good enough; and now by using it I find that they were not only *all true*, but that not more than half were told. The fact is, no one can fully appreciate the merits of the Ball and Socket Joint, until he uses it. I go wherever I like, no matter whether it is level or hilly, rough or smooth. The foot accommodates itself to the surface, the same as the natural one, and enables me to walk with freedom and ease. Respectfully yours,

W. H. PACKARD.

A PALMER LEG REMODELED AND IMPROVED.

DETROIT, MICH., Aug. 3, 1859.

DR. D. BLY:

Dear Sir—I this day send you by express one of my Artificial Legs, manufactured by Mr. Palmer, of Philadelphia. I wish you to insert your patent India-rubber springs and knee-joint. I have worn Artificial Legs between thirty and forty years—Bartlett's, Palmer's, and Thomas', and one other, whose name I cannot recollect—all of them having metallic springs, which are a perpetual source of trouble and expense, in consequence of their breaking so often. Another great source of annoyance with all the Artificial Legs I have seen or worn, is the wearing of the bolts and boxes, producing a clanking or rattling noise; the only remedy being to send the limb to the manufacturer, or some other mechanic, to have the boxes bushed. I saw a specimen of your Artificial Legs last Spring; gave it a thorough examination, and it seems to me you have found a remedy for both of the difficulties alluded to.

Please make the necessary alteration as soon as convenient, as I am in continual fear, when one of my legs is gone for repair, that the springs in the other may break at any time, and compel me to take to my crutches

Yours truly, E. ROOD.

DETROIT, MICH., Sept. 19, 1859.

DR. D. BLY:

Dear Sir—My Palmer Leg, into which you put your patent springs and knee-joint, came in due season. I am extremely well pleased with the improvement. The action of your springs is remarkably pleasant. There is a LIFE-LIKE ELASTICITY IN THEM, which gives a very fine motion to the leg, far superior to the metallic springs.

Your method of tightening the knee-joint is admirable. It is as much better than bushing with buckskin, as the rubber springs are better than the metallic.

I am so well pleased that I shall send you my other Artificial Leg, to have your springs and knee-joint inserted, as soon as its instep spring breaks again.

Yours respectfully, EZRA ROOD.

All other legs of similar construction improved in the same manner, on reasonable terms.

DR. J. F. MILLER, of Louisville, Ky.

AS HE IS.

AS HE WAS.

LOUISVILLE, KY., Dec. 10th, 1859.

DEAR DOCTOR:—Again I send you my warmest thanks, for setting me on my feet again. I also feel very thankful to the doctors here for sending me to you. They told me you had constructed a leg on anatomical principles, which I hardly thought possible, but now I am convinced. The Ball and Socket joint at the ankle allows my feet to accommodate themselves to the varying inequalities of the ground, so well, that not one in a hundred can tell, by seeing me walk, that I walk on anything but my natural legs. This has been tried over and over again. It is a great triumph. I can walk on rough ground, side hills, slanting sidewalks, cobblestone pavements, and up and down stairs without difficulty, not even requiring a cane. In going up and down stairs I use my feet alternately, the same as other people. When I had had my legs only three weeks, I walked a mile and a quarter in 22 minutes, and went up one flight of stairs in the time. A few days ago I walked over the Oakland Race Course—one mile—in fourteen minutes. Dr. Knight, D. S. Benedict, Thomas Brown, Capt. McPherson, and others, saw me do it. I do not know whether you call that good walking or not, but it suits me pretty well.

I, and my friends, will wager $5,000, that I can walk a greater distance in a given time, than any man living who walks on two artificial legs of any other patent or construction.

If there is any one in this region who wants an artificial leg, send him to me, for I am a better certificate than can be published.

Most sincerely yours, DR. J. F. MILLER.

☞ Mr. J. F. Miller had the misfortune in California some years ago to have both legs cut off by a threshing machine, and subsequently resided in this city, but was nevertheless able to move about on the remaining joints. During the past year Mr. Miller has procured a pair of artificial legs made by Dr. Bly, of Rochester. We knew Mr. Miller well when he resided here before, and yesterday a friend took us to his office. We found him sitting in a chair on entering, and he immediately arose and coming up to us received us very cordially. Our friend had not informed us who he was, and we did not recognize him. We knew the face, but having been accustomed to look down upon him, we now had to look up in addressing him, and he moved about on his artificial "understandings" with an ease that challenged detection. The change was so great we had to be told who he was.—*Louisville Journal.*

HARTWICK, Otsego Co., N. Y., May 10, 1862.

DR. BLY:

Dear Sir—You may refer any one to me who wants a leg, and I will consider it no trouble to show mine. I have now worn it more than a year, and it has never been out of order a minute—a great contrast when compared with the Palmer Leg which I wore before getting yours. That gave out so often that I never felt safe. The Palmer Leg is not to be compared with yours. The universal motion at the ankle joint enables me to go about my farm, no matter how uneven the ground. I can chop, make rail fence, dig ditch, sow my grain, in fact do most all kinds of work, though my leg is amputated within five inches of my body. Yours truly,

GEORGE LOUGH.

SCHENECTADY, N. Y., May 6, 1862.

DR. D. BLY:

Dear Sir—I have worn the Palmer patent Legs several years, but I never wore a Palmer Leg a year without renewing or repairing the springs or joints. I have now worn yours more than a year without any repairs, still it is as good as when I got it from you, for any thing I can see. For comfort, naturalness and beauty, your Leg is not surpassed. I have traveled a good deal, and have made myself familiar with the different Legs made in the United States, England, and the Continent, having worn nearly every kind that has been made within the last twenty-four years, therefore speak knowingly. Some manufacturers who make Legs without lateral motion, pretend that lateral motion is of no service in an Artificial Leg, but any man who has worn both kinds *knows* that the lateral motion is worth everything It gives such comfort, freedom, and grace, and is such a palpable improvement, that it seems strange that any one should be so *selfish* as to make any such pretensions.

Respectfully yours,

ANDREW FRAME.

"SYME'S OPERATION" THROUGH THE ANKLE JOINT.

From the following testimony of Mr. White, a well known citizen of Albany, N. Y., who purchased a leg and gave it to a boy as a charity, it will be seen that this Leg can be applied after "Syme's operation" with unparalleled success. Still, I think it is better for the patient to be amputated at the junction of the lower and middle third of the tibia.

ALBANY, N. Y., May 1, 1862.

DR. D. BLY:

Dear Sir—The Artificial Leg which I purchased from you for a young lad who had his leg amputated through the ankle joint, and whose case I felt a great interest in from the peculiar circumstances attending his injury, works admirably. His movements in walking appear natural and easy, and his control of the limb seems in no wise impeded. I feel gratified, from my observation of the perfection of your art in the manufacture of Artificial Legs, in giving you this approving testimonial. Yours, &c.,

WILLIAM WHITE.

CORNING, N. Y., Aug 15th, 1860.

DR. DOUGLAS BLY:

Dear Sir—I have worn your Leg every day since I got it, and am very much pleased with it. I have worn three different patents before yours—one made in New York, one in Boston, and one in Springfield, Mass., by Palmer & Co., but I never could walk as well, or work with as much ease with either of them as I can with yours. The side motion is the best thing of all. It enables me to lift and carry heavy iron castings without hurting or straining my stump; also to work at a vice, or do anything belonging to my trade—machinist.

Your India-rubber springs enable me to walk very well indeed. I have no limp or halt as I had with my other legs. The India-rubber springs seem to take away the mechanical action always produced by metallic springs, If any one wishes to see this demonstrated, let him come and see me at my work, or let him take a walk with me. Yours, &c.,

HENRY LIPPS.

A PALMER LEG REMODELLED AND IMPROVED.

SCHAGHTICOKE, Rensselaer Co., N. Y., Aug. 16, 1860.

DR. BLY:

Dear Sir—I am happy to inform you that my Palmer leg, which you remodelled for me with your improved Ankle Joint and Springs, now works to a charm. I suffered a great deal of inconvenience with the springs of my old leg continually breaking, and with the joints becoming so loose as to make a noise at every step, both of which difficulties are obviated by your improved springs and joints.

The lateral motion of the ankle joint is a great improvement over the old Palmer ankle. It enables me to walk on any grade, or on rough and uneven places, without prying, cramping or straining my stump. And it gives a greater freedom of motion, and takes away that stiffness that I used to feel in walking.

The natural motion and ease in walking obtained by your ankle joint and India-rubber springs, when contrasted with my old Palmer ankle and springs, makes your invention invaluable. You deserve the heartfelt thanks of that portion of community, who are obliged to look to art to supply a limb, in place of one of which accident has deprived them. I remain truly your friend,

J. W. GEDDIS.

HENRY LEWIS, OSWEGO, N. Y.

This is probably the most remarkable case in which Artificial Legs have ever been applied with success. They have been applied, as in the case of J. S. Sanford, where one leg was amputated just above the ankle, and the other just above the knee, but never in a case of such mutilation as this. This case demonstrates the utility of the lateral motion, beautifully. The stumps are so short as to preclude all possibility of wearing Artificial Legs without lateral motion. To balance with such short stumps on Artificial Legs without lateral motion, would be like a boy on stilts.

HENRY LEWIS, OF OSWEGO, N. Y.
Cuts showing him, 1st, as amputated; 2d, with pants rolled up and stockings down to show the artificials; 3d, in ordinary business dress.

OSWEGO, April 24, 1862.

DR. D. BLY:

Dear Sir—It is with heartfelt gratitude that I write these few lines to inform you of my progress, and if they will be of any service to you or your patients, you are at liberty to use them.

When my legs were amputated no one supposed that Artificial ones could be applied in my case, because so little of my limbs were left, one being amputated very close to the body, and the other within an inch and a half of the knee

joint. In no case, though similar, had Artificial legs ever been applied to such short stumps. And when Dr. Bly would make no promises except that he would try, then the future looked dark. But ten thousand thanks for that trial. It was successful. Despair was banished. Joy returned like a burst of sunlight after a terrible storm. I was happy once more.

I have now worn the Legs two years with increased success. I walk to and from my place of business with ease. On an average I walk two miles a day in the street, which is not anything like what I could do if occasion required. I go up and down stairs, get out and into carriages, railway cars, &c., &c., and go when and where I please. I use no cane in and around the office. I have been intimately acquainted with persons for months without their mistrusting that I wore even one Artificial Leg, though they saw I was a little lame.

The lateral motion at the ankle prevents all cramping and prying when I step on any inequality, and thereby enables my little short stumps to control the legs remarkably well.

With many wishes for your health and happiness, I remain yours,

HENRY LEWIS.

ENDORSED BY THE NEW YORK ACADEMY OF MEDICINE.

The New York Academy of Medicine, acknowledging the importance of Artificial Legs, appointed a committee to investigate the construction and merits of every Artificial Leg before the public, and report to the Academy. After having the subject under investigation for something more than a year, the committee made an elaborate report, from which I make the following extract:

"The *Bly Leg* differs in many important particulars from those already described. The ankle-joint differs from all others.

"It is a tolerably close imitation of the natural joint, having prominently in view a universal movement, which is attained by a ball and socket joint. The ball is of glass, the socket in which it works of vulcanized rubber, and kept in position by four cords (one on either side, and the heel cord) having vulcanized rubber nuts upon their upper ends, which are made fast to a strong diaphragm about the middle of the leg. The nuts work upon car-spring India-rubber cushions to give elasticity of action. By tightening these nuts, almost any degree of mobility may be had, according to the wishes of the wearer, and almost any inclination to one side or the other, according to the peculiar set of the wearer's foot.

"The necessity for a broad, firm base such as the feet, upon which the characteristic erect posture of man depends, renders general mobility especially necessary. This member being intended to give firmness and stability in the erect posture by accommodating itself to all inequalities of surface, must of necessity be free to assume any inclination in any direction, and this can easily be accomplished by a universal movement at the ankle.

It will be at once seen that if the sole of the foot (the ankle being stiff) be flatly applied to an inclined surface of only a few degrees, the head of the femur must describe an arc in proportion to the length of the limb and inclination of the surface, or else the body and arms must be engaged in continuous efforts to preserve the balance, which could not be done even then, except on surfaces inclined a very few degrees.

"This difficulty is overcome in one direction only by the anteroposterior flexion of the ankle, the same difficulty obtaining in full force as respects movements in every other direction. To remedy this defect, wearers of limbs of this kind tread upon the edge of the foot when on inclined surfaces, in effect surrendering all the advantage of a firm, broad base, and converting the limb to that extent into a "peg leg."

"Having such impressions of the importance of a universal movement at the ankle, we believe that such as make use of that principle are to be preferred to those in which it is not adopted."

ENDORSED BY THE STATE MEDICAL SOCIETY OF OHIO.

"*Resolved*, That we have witnessed the exhibition of Dr. Douglas Bly's Ball and Socket-Jointed Artificial Leg with extreme satisfaction, and are free to express the fact that its motions and mechanism surpass everything of the kind that we have ever become acquainted with." E. B. STEVENS, M. D., Sec.

(From the Transactions of the Medical Society of the State of New York.)

The Points of Election and Kind of Operation, for Amputation of the Lower Extremities, with reference to the Use of Artificial Limbs.

By DOUGLAS BLY, M. D., Rochester, N. Y.

POINTS OF ELECTION.

Since an early period in surgery, surgeons have recognized the importance of selecting such points for amputation of the lower extremities, as were best adapted to the application of artificial limbs. And many of the authors of works on surgery have given such points as were considered best adapted to the artificial limbs made at that time, but the great improvements which have been made in artificial limbs have materially changed the old points of election; therefore this subject demands the attention of surgeons generally.

In accordance with the high state of perfection now attained in the construction of artificial limbs, all amputations performed on the foot should be anterior to the insertion of the flexors of the foot. The operation known as "Chopart's," severs the flexors of the foot, and should *never* be performed under any circumstances whatever. The moment the flexors are severed, the extensors, having no antagonists, draw the heel upward, extend the foot on the leg, and cause the amputated surface to point almost directly downward. This deprives the patient of all power to use the remaining portion of the foot, and also renders him incapable of wearing a useful substitute. I am aware that, to obviate this difficulty, some surgeons have severed the tendo achilles, but that has proved ineffectual; it is only a partial relief at best. Therefore amputation at this point renders the patient a hopeless cripple. The wound is slow to heal, *always tender*, often ulcerating, and the remaining portion of the foot is generally a curse to the patient as long as he lives, unless he submits to a secondary amputation.

It is but a short time since the Prof. of Surgery in the Geneva Medical College performed secondary amputation for such a patient. This patient had had the tendo achilles cut twice, and then made an unsuccessful effort to wear a substitute constructed by a noted firm in New York city, but at last, to better his condition, was obliged to submit to re-amputation. (*See cut, Fig. 5, which represents a stump after "Chopart's operation."*)

5

Fig 6

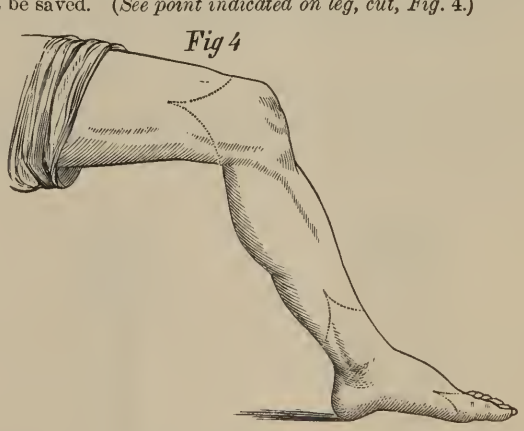
Amputation through the ankle joint by sawing through the malleoli, known as "Symes' operation," is less objectionable; still, since the artificial leg has been brought to such perfection, there are reasons which weigh heavily against this operation. The ankle joint in the artificial leg should correspond with the one of the natural leg, but cannot in this case, on account of the length of the tibia and

fibula, therefore the joint must be placed a little lower than the other. (*See cuts Nos.* 1 *and* 3, *on second page.*) For amputations below the knee, the cords C, Fig. 1, have to be shortened according to the length of the stump, until the springs, S, rest on the plane seen just above the ball, B, and cannot conveniently be placed any lower, consequently in Syme's operation the springs must be placed in the foot, whereas they should occupy the position of the muscles as near as may be. To get a good fit with an artificial limb, the stump should be conical, or at least it should not be larger at the end than it is higher up, as it renders a portion of the interior of the artificial too large, if made large enough to allow the bulbous extremity to pass through. (*See cut, Fig.* 6, *which represents a stump, after "Syme's operation."*) Or if the leg is made to lace up, even then the ankle is necessarily large and clumsy.

It has been supposed that by this operation the patient would be able to take the most if not all his weight upon the end of the stump, but the cases which I have seen do not sustain the supposition. I have not seen one that could support the whole weight on the end of the stump, though a few could sustain some, not enough, however, to counterbalance the difference in the substitutes; while others could not bear any more than those who are amputated higher up. Therefore, when amputation becomes necessary which would sever the flexors of the foot, it should be performed a sufficient distance above the ankle joint, to admit of an artificial substitute with an ankle joint of the most perfect construction now attained.

The junction of the middle and lower third of the tibia is the lowest point at which amputation of the leg can be performed, and give sufficient room for the construction of a good, substantial and graceful artificial limb, with an ankle joint of the most recent improvement. *It also gives a stump of as much length as is of any service to the patient,* therefore the junction of the middle or lower third of the tibia should be the *first point of election,* whenever the flexors of the foot can not be saved. (*See point indicated on leg, cut, Fig.* 4.)

Fig 4



An artificial leg, with lateral motion at the ankle joint, will bear a stump of greater length, with comfort to the patient, than one which has *no* lateral motion at the ankle. The testimony of those who have undergone re-amputation is, that with a very long stump and an artificial leg which had no lateral motion at the ankle, they suffered much more from the cramping and prying of the stump against the sides of the leg when they stepped on any uneven surface, than they did after re-amputation, with a stump of less length. The fact that the junction of the lower and middle third of the tibia gives a stump of as much length as is of any service to the patient, is important in this connection. Then from this point the surgeon should not recede unless compelled by necessity. He should contest every inch until driven to the knee joint. But he should never operate through the knee joint, as nothing is gained by it while much is lost, because the end of the femur will occupy space which is needed for the construction of an artificial knee joint. True, an artificial joint has and can be made

in this case, but not near as durable and comely as when the condyles of the femur are removed. The size of the condyles makes the end of the stump too large, and the same objection arises in "Syme's operation."

If the femur is sawn through just above the condyles, the stump assumes a conical form, and the end of the bone no longer presents any obstacle to the construction of an artificial joint of the most modern improvement. Then for amputation of the thigh, the point of election is just above the condyles of the femur. (*See point indicated on thigh, cut Fig.* 4.) From this point upward the surgeon should contest every inch with redoubled vigor. And the higher compelled to go, the greater the value of every item of femur saved.

KIND OF OPERATION.

In the use of artificial legs no weight is ever taken on the end of the stump, in fact nothing is allowed to *touch* the end of the stump. But on the sides it is just the reverse. The artificial leg encases the stump, and more or less pressure is taken on all sides, particularly anteriorly and posteriorly. The stump is used as a lever to operate the artificial leg, and at every step there is considerable pressure on the anterior surface in carrying the leg forward, and then it is transferred to the posterior surface, just as the weight of the body is being carried forward on to the leg. Thus there is a pressure alternately on these two surfaces at every step. Besides this, with a leg in which there is no lateral motion at the ankle joint, there is more or less cramping or prying of the stump against the sides of the artificial leg whenever the foot is placed on an inclined plane, or one side happens to be placed on any inequality, such as a stick or stone, or uneven ground of any kind. Now as the cicatrix is always tender and sensitive, it becomes necessary that, in amputating the lower extremities, the surgeon should choose the kind of operation which will best protect the stump on all sides, particularly the anterior and posterior.

The operation which fulfills these indications best, is the *double flap*, the flaps being antero-posterior. (*See dotted lines on cut, Fig.* 4.)

If the flaps are taken from the antero-posterior surfaces, they lap over the end of the bone or bones, and protect the edges by means of sound, healthy integument in all cases, and in many by a cushion of muscle. This brings the cicatrix across the end of the stump where nothing can touch or injure it when wearing an artificial leg. Very small portions of the cicatrix may in some cases pass up on the sides laterally, but not enough to be of any account in the use of an artificial leg with lateral motion at the ankle joint, as that prevents all lateral cramping or prying against the sides of the stump.

The single flap operation is decidedly bad, because it often, if not always, brings the cicatrix just across the edge of the bone, where from its sensitiveness it seriously interferes with the use of an artificial leg.

The circular operation would, at first sight, appear to fulfill every indication, as it is alike on all sides, but unfortunately, instead of protecting all sides, it is really just the reverse. As soon as the weight of the body is placed upon the stump with a circular operation, the whole muscular covering, with the integument, glides upward in a body; the end of the bone or bones protrude beneath, covered by a thin cicatrix only, and instead of being protected on all sides are really protected on neither. Thus it is seen that the *antero-posterior flap operation* is THE operation to be performed, whenever the surgeon has the privilege of choosing.

Since the above was written, Dr. W. H. Van Buren, of New York City, has shown me a patient with Symes' operation, who can bear his whole weight on the end of the stump. It certainly is a very favorable case, and goes far towards removing my prejudice; still, if the operation is a difficult one, and can be successfully performed by those only who are in the habit of operating often, and such success cannot be expected by the multitude of Surgeons throughout the country, then the reasons against the operation remain in full force. Though not in favor of the operation, I can and do apply artificial legs successfully in all cases of Symes' operation, whether the patient can bear any pressure on the end of the stump or not.

SPECIAL INSTRUCTIONS TO THOSE WANTING LIMBS.

Knowing that my inventions in artificial legs are almost too good to be believed by those who have never seen them, I have given the name and post-office address of each patient in full, so that any one can communicate with them who may choose to do so.

Though the perfection of my Anatomical Leg is truly wonderful, I do not want every awkward, big-footed, or gambreled-shanked person, who always strided or shuffled along in a slouching manner with both his natural legs, to think that one of these must necessarily transform him or his movements into specimens of symmetry, neatness, and beauty, as if by magic, as Cinderella's frogs were turned into sprightly coachmen. They are just what I recommend them to be—neither more nor less.

I am particular in defining this position, because I want patients to understand that there is a difference between a plain statement of facts, and an inflated circular or pamphlet, which has been spread broadcast by an artificial leg maker, who styles himself "Surgeon Artist," sometimes "Surgeon Artist to the Government," and at others, Surgeon Artist to the hospitals, though he is not a graduate of any college, never having had a Surgical, Medical, or Anatomical education. He talks flippantly of "*his profession*" the imposition of quacks, imitators and counterfeiters. That may have turned the attention of the public from himself for a time, but can do so no longer.

That surgeons may know that it would be safe to trust their patients to me, particularly cases where sloughing or contraction has taken place, and all irregular and anomalous cases, I wish to state, without the least egotism, that I graduated at the Jefferson Medical College, Philadelphia, and then entered the Ecole de Medicine in Paris, where I spent a year, and then visited the principal hospitals in France, Italy, Austria, Germany and England; and that I have practiced Medicine and Surgery ten years, during the winters of seven of which I taught Anatomy; and that I am a member of the New York State Medical Society, and the American Medical Association.

HOW TO PROCEED.

Whenever a patient wants a leg, he should write to the nearest office (as given below) stating the case minutely, where amputated, whether the knee is flexible or not, &c., and a blank for measurements will be sent. The blank should be filled and returned. As soon as returned it will be put on file, from the date of which each takes his turn. The leg will be commenced in its *proper* order, and when partly made, the patient will be notified to come to the manufactory and have it fitted, To have the leg fitted, and to try it well, will require the patient to remain two or three days.

No leg will be allowed to go out of either of my manufactories until the patient presents himself to have it properly fitted. If any patient would blindly throw away his money by having a leg made, from the measures alone, and sent him, he must apply to some other party.

I pride myself upon superiority, and would not like to take the chances of sending out a leg which would be of little service to the patient.

☞ The stump should be bandaged tightly, and the remaining joints moved more or less every day, until a leg is procured.

LOCATION OF OFFICES AND MANUFACTORIES.

All communications should be addressed to DOUGLAS BLY, M. D., at either of the following offices:

NEW YORK, 658 Broadway.
ROCHESTER, N. Y., Over Post Office.
CHICAGO, ILL., Opposite Post Office
CINCINNATI, O., 152 West Fourth St.
ST. LOUIS Mo., 519 Pine St.
NASHVILLE, TENN., in City Hall.
NEW ORLEANS, LA., 71 Camp St.
AUGUSTA, GA., Cor. Campbell and Broad Sts.
RICHMOND, VA., near Post Office.
LONDON, England, 56 Wimpole St.

DOUGLAS BLY, M., D.,
Anatomist and Surgeon

Fig. 1

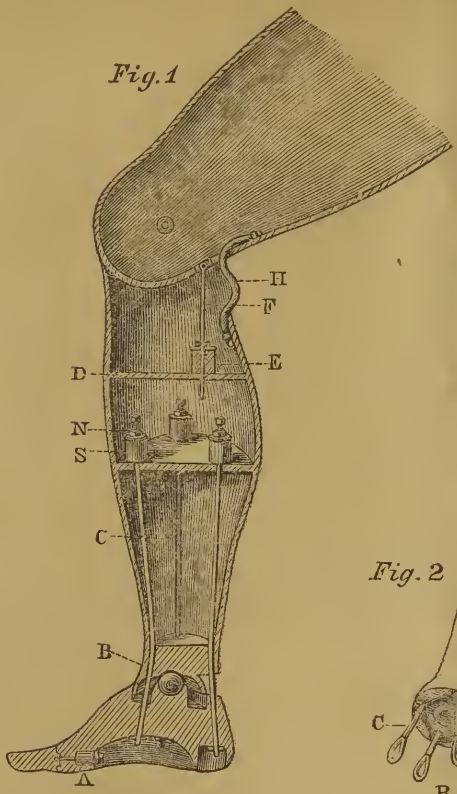


Fig. 6

Fig. 2

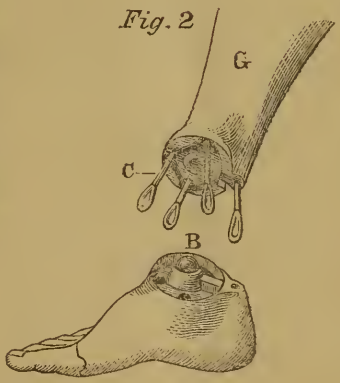


Fig. 4

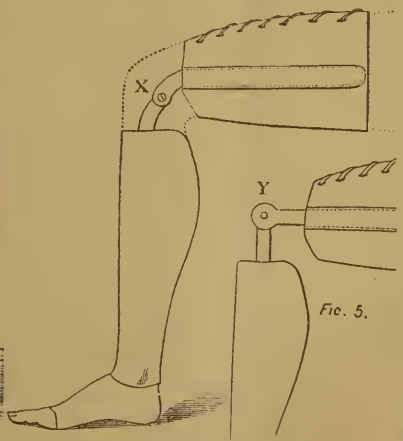


Fig. 5.